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ANALYSIS OF PATTERNS OF LIFE HISTORY ANTECENDENTS OF EXECUTIVES FROM DIFFERENT COUNTRIES.

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TO DETERMINE IF THERE WERE DIFFERENCES IN THE FACTOR STRUCTURE OF BIOGRAPHICAL INFORMATION DATA OF EXECUTIVES, IT WAS HYPOTHESIZED THAT FACTOR STRUCTURE WOULD BE RELATED TO FUNCTIONAL ASSIGNMENT AND THE EMPHASIS GIVEN THAT FUNCTION BY THE ORGANIZATION. A SURVEY QUESTIONNAIRE WAS ADMINISTERED TO 382 LATIN AMERICAN EXECUTIVES. A PRINCIPLE COMPONENT FACTOR ANALYSIS WITH AN ORTHOGONAL ROTATION WAS PERFORMED, AND REGRESSION WEIGHTS WERE DETERMINED FOR EACH ITEM ON THESE FACTORS--(1) UPWARD MOBILITY THROUGH EDUCATIONAL ACHIEVEMENT, (2) SELF-DESCRIPTION IN TERMS OF THE WORLD OF REALITY AND CONCRETE AREAS, (3) SELF-PERCEPTION OF PERSONAL ABILITY AND ACHIEVEMENT IN MORE ABSTRACT AREAS, (4) ATTITUDES TOWARD FAMILY, AND (5) INTERPERSONAL RELATIONS IN SOCIAL ACTIVITIES. THIS STUDY SUGGESTED THAT THE STRUCTURE OF AN INDUSTRIAL ORGANIZATION DETERMINES THE TYPE OF PERSON WHO WILL REACH EXECUTIVE LEVEL. THE PERSON'S CHARACTERISTICS WILL BE AFFECTED BY THE ORIGINAL ASSIGNMENT. IT WAS DEMONSTRATED THAT FACTOR SCORES DESCRIBE PEOPLE BETTER THAN DISCRETE, LIFE-HISTORY ITEMS. (AUTHOR/PH)

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ANALYSIS OF PATTERNS OF LIFE HISTORY ANTECEDENTS OF EXECUTIVES FROM DIFFERENT COUNTRIES

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ABSTRACT

The purpose of this study was to determine if there were differences in the factor structure of biographical information data of executives that were hidden by a global analysis. On the basis of Cassens study (1966) it was hypothesized that factor structure would be related to functional assignment and the emphasis given that function by the organization.

A survey questionnaire consisting of 62 continuous items was administered to 382 Latin American executives. These executives were employed in Peru, Colombia, and Central America in general administration, marketing and operations at a level in the organization where they influenced the formulation of policy. All were members of a large international petrochemical company.

A principle component factor analysis with an orthogonal rotation was performed; regression weights were determined for each item on the five factors identified and described. Factor scores were computed for each executive on each of these five factors. The five factors as named by Cassens (1966) were as follows:

1. Upward mobility through the means of educational achievement.
2. Self-description in terms of the world of reality and concrete areas.
3. Self-perception of personal ability and achievement in more abstract areas.
4. Attitudes toward family.
5. Interpersonal relations in social activities.

This study suggested that the structure of an industrial organization determines the type of person who will reach the executive level. The characteristics of the person who reaches this level will be affected by the organizational assignment as well as by country.

This study indicated the importance of the factor structure of biographical information for describing people in organizations. It demonstrated that factor scores describe people better than discrete life history items.

In the last twenty years American sales abroad have risen to over fifty billion dollars. Seventy-five percent of these commodities were produced in American overseas subsidiaries. (Koch, 1961). A survey of New York Stock Exchange members revealed the following approximate increases in the percentages of foreign investments since 1956: 150% in Central America, 85% in Europe, 81% in Africa, 66% in Asia, 64% in Australia and Pacific Islands, and 50% in South America. (International Commerce, 1962)

McDonald (1964) listed six basic reasons for the increase in overseas investment: (1) increased demand for world wide customer services, (2) counteraction of recessions in home market, (3) decline of domestic profits, (4) restrictions on future expansion in home markets, (5) profitable investment of idle surplus capital and, (6) as a hedge against foreign competitors in home markets.

With expansion of overseas investment American companies were faced with the problem of staffing corporate vacancies in their overseas subsidiaries. Management attempted to solve this problem in two ways: (1) by sending managers overseas, and (2) by developing "Nationals" in the host country to be executives. Today most host countries require foreign investors to employ local people to fill a large proportion of the existing executive positions. This is especially true in Latin American Countries because of their concern over outside encroachment on their sovereignty. These nations strongly favor nationalism. (Tannenbaum, 1966).

Some companies such as Singer, Standard Oil (New Jersey), and United States Rubber, have increased their use of "Nationals" in their overseas operations. These companies cite lower costs, good will, political pressures, and difficulty in locating and recruiting "Americans", as major reasons for hiring "Nationals."

As Laurent (1963) points out the recruiting and development of effective management staffs is much more difficult for overseas subsidiaries than for the parent company, because the overseas manager has most of the same problems as the manager in the United States plus others by virtue of his being abroad. The manager's job abroad, for example, involves greater concern with government and community relations. These unique qualifications required of a manager if he is to be successful overseas make it extremely important for an organization to assign to their overseas management positions men who have the highest probability of succeeding.

Selection and Promotion of Executives in Central and South America

Lauterbach (1965) in his study of Latin American Executives has noted that the pool of potential executives varies from country to country. Northeast Brazil, for example, has such an acute shortage of competent people that management is often limited to a single candidate when making a promotional decision. A similar problem exists in Mexico. One Mexican executive stated:

> In this country there is a great problem in getting competent persons. There are no professional managers yet for whom management is a vocation. We have to observe executives at work, to see whether they are completely responsible on the job and whether they are creative and expansive. Personal traits such as: "ideology", honesty, and sanity are very much taken into account, but we cannot afford to be "scientific" about it. (Lauterbach, 1965).

Roberts (1962) remarked that the selection and promotion of executive personnel in most parts of Latin America is strongly influenced by family status, political factors, personal acquaintances and other factors that may not be related to job success. He observed that few companies in Latin America used psychological tests for screening personnel.

However, Baker (1963) has reported a pilot testing program in a Brazilian Company. It was recognized that the Brazilian Company had special needs for improving selection procedures because the customs and laws of Brazil freeze an employee into an organization after ten years of service in such a way as to make it almost impossible to reassign or to terminate an unsatisfactory employee. Baker proposed tentative test batteries for selection of clerical workers, office personnel, and salesmen.

Probably the most ambitious project in executive selection was one reported by Henry and Laurent (1961-1962). The purpose of this project was to determine if a person with potential ability to reach a top management position could be identified early in his company career - a battery of tests was devised which yielded consistently high reliability and validity in differentiating "successful" from "less successful" executives. A major component of this test battery was a Biographical Information Blank. The initial criterion group for validation of the "Early Identification of Management Potential Program" (EIMP) was composed of executives employed in the United States.

Laurent (1963) had the tests from the EIMP program including the Biographical Information Blank translated into Spanish and administered to staff and management employees in South and Central America.

Cassens (1966) found the factor structure of three different cultural groups, which included a group of Latin American Executives to be similar, even though the overt behavior described by the three groups differed. The results of Cassens' study are in line with Laurent's (1965) belief that there is a management culture which transcends the individual local culture.

Biographical Information Blank (BIB)

During World War II the BIB, in its present form, was developed more or less simultaneously by the Army and Navy. Following World War II Bittner (1945) used the BIB to predict college entrance and Johnson (1946) showed the potential value of background information in the detection of accident prone drivers.

Owens and Henry (1966) reported the following studies carried out by Standard Oil Company (New Jersey) as evidence of the level of validity obtained with the BIB.

1. A BIB used with skilled workers and job applicants for such jobs correlated with various criterion, usually multiple alternation ranking on overall job performance, as follows: .45, .46, .46, .30, .27 and .29.
2. A BIB for Engineering and Technical Personnel correlated with a criterion of overall job success .39 and .27.
3. A BIB from the Early Identification of Management Potential Study correlated .40, .35, .64, .32, .35, .63, .37, .30, .32, .26, .35, .14, .38 and .44 with various criterion of managerial success.

Several recent investigations on biographical information data have used the factor analytical approach. Thomson and Owens (1964) selected 90 items from the Chaney and Owens study (1964) and factor analyzed the items. They discovered six factors and named them as follows:

I. Scientific Interest
II. Social Leadership
III. Urban Orientation
IV. Intellectual Orientation
V. Management Orientation.

A sixth factor contained too few significant loadings to be interpreted. Thomson and Owens (1964) hypothesized:

> "there are certain factors arising from life history data which remain invariant from one population to another---i.e., that a factor observed in one setting may be similar to, or identical with, a factor arising from an entirely different situation and population."

In order to test this hypothesis, Thomson and Owens compared the factors they obtained with factors found by Morrison (1962) using professional employees doing research in an industrial organization; they also compared Morrison's (1962) factors with those obtained by Gilmer (1963) using senior citizens. In spite of the fact that these studies were not designed for the purpose of comparison when Tucker's (1951) coefficient of congruence was applied to these data, Thomson and Owens found that two factors were common to all three investigations. One factor was labeled Favorable Self-Perception by Morrison, Socio-economic Success by Gilmer, and Social Leadership by Thomson and Owens. The second factor was labeled Tolerance for ambiguity by Morrison, Management Orientation by Thomson and Owens, and these were the reverse of Gilmer's Introversion Factor.

Cassens (1966) found ten common factors to exist in three separate cultural groups: (1) Americans working in the United States, (2) Americans working overseas, and (3) local nationals working in the country of their origin. The ten factors were assigned the following mnemonic labels:

1. Upward mobility through the means of educational achievement.
2. Self-description in terms of the world of reality and concrete areas.
3. Self-perception of personal ability and achievement in more abstract areas.
4. Attitudes toward family.
5. Interpersonal relations in social activities-Sociability.
6. Attitudes and orientation towards tasks.
7. Self-sufficiency---capacity to take care of one's self and personal life.
8. Achievement through the use of conforming behavior. (For Americans Overseas this was more of an achievement factor.)
9. Rate of Maturity.
10. Physical and mental health.

Cassens (1966) implied that there are life history antecedents which go back to the earliest stages of an individual's life and which influence the motivation of the individual. Executives from different cultures appeared to have the same general pattern of life history antecedents.

Thomson and Owens (1964) and Cassens (1966) have shown that factor similarities exist on a global basis.

The question remains however: Are there differences in organizations by country or by function that are hidden by the global data? On the basis of Cassens' (1966) study, it is hypothesized that factor structure will remain stable for country and function but the country by function interaction will be significantly different due to the economic culture imposed by the organization.

PROCEDURE

Subjects:

The subjects used in this study were 382 Latin American executives employed by a large international petrochemical company. These executives performed at an organizational level that allowed them to formulate plans and policies affecting the overall company philosophy. Functionally, these executives served in either operations, marketing, or general administration (i.e., a member of the Board of Directors).

Countries represented in the sample were Peru, Colombia, Puerto Rico, El Salvador, and Nicaragua. Table I shows a sample breakdown by country and function.

TABLE I

NUMBER OF EXECUTIVES SURVEYED BY COUNTRY AND FUNCTION

	Peru	Colombia	Central America (Puerto Rico, El Salvador, and Nicaragua)
General Administration	30	45	18
Marketing	39	40	17
Operations	133	50	10
Total	202	135	45

Survey Instrument

The 62 biographical information items used in the present study were selected from the Biographical Information Blank (BIB) developed by Henry, Laurent, et al (1961) which was used initially as part of a battery of tests designed for the early identification of management potential. These 62 items were chosen from the original 151 items because they were continuous and linear.

The 62 items were presented to the Latin American executives in Spanish. This form was a direct translation of the BIB used with executives in the United States. A copy of the Spanish BIB and an English translation is given in Cassens' study (1966).

The reliability of the total BIB has been estimated to be of the magnitude of .90 with validities of approximately .80 against organizational criteria of management success (Social Science Report, 1961). It appeared reasonable to assume that, even though reliability is adversely effected by a reduction in the number of items included in the predictor, the reliability of the 62 continuous items was not significantly reduced. This seemed especially true since a large number of these items requested factual information--weight, height, age, education of father, etc.

Method

The total BIB was included as part of a test battery used in an Early Identification of Management Potential Program. The complete test battery was administered, during the second and third quarters of 1964, by professional examiners in order to insure consistency.

The 382 Latin American executives included in this sample represented more than 75% of the available corporate executives belonging to this group. If allowances were made for vacations, sickness, official business absences, etc., voluntary exclusion from the sample was probably less than 5% of the total executive population.

RESULTS

Intercorrelations were computed between each of the 62 continuous items for the 382 Latin American executives. The intercorrelation matrix is reported in Appendix A. These are Pearson Product Moment Correlations.

These correlations were factor analyzed using the method of principle components with an orthogonal rotation. The factor loadings for all items on each of the five factors extracted are shown in Appendix B. An asterisk is employed in the appendix to indicate those items used by Cassens (1966) in identifying the factors. The five factors used are the same as Cassens' and were given the same mnemonic labels:

I. Upward mobility through educational achievement.

II. Self-description in terms of the world of reality and concrete areas.

III. Self-perception of personal ability and achievement in more abstract areas.

IV. Attitude toward family.

V. Interpersonal relations in social activities - sociability.

Regression weights were computed for each item using the factors as the criterion. These regression weights provided the basis for determining a factor score for each subject on each of the five factors. These factor scores divided by country and function are reported in Appendices C, D, and E.

Initially the factor scores of one factor were plotted against those of another for all 10 distinct combinations of the five factors. The results of these analyses are shown in Figures 1 - 10. The figures are merely outlines of the scatter plots for each country on each of the comparisons. The scatter plots were originally divided by organizational function, but they were not graphed because an inspection of these points failed to show any consistent pattern.

Several trends are discernible from a visual inspection of the scatter plots. (1) The general shape of each of the plots for each country is similar. (2) Factor I has two distinct groups. The group receiving negative scores on this factor are people who succeeded in spite of a low educational level. (3) There is a difference in the variability of the factor scores on the five factors which is probably due to the fact that the first two factors extracted accounted for the largest proportion of variance.

The second series of analyses consisted of computing double classification analysis of variance (Winer, 1962) for each of the five factors, using factor scores of the subjects as cell entrants.

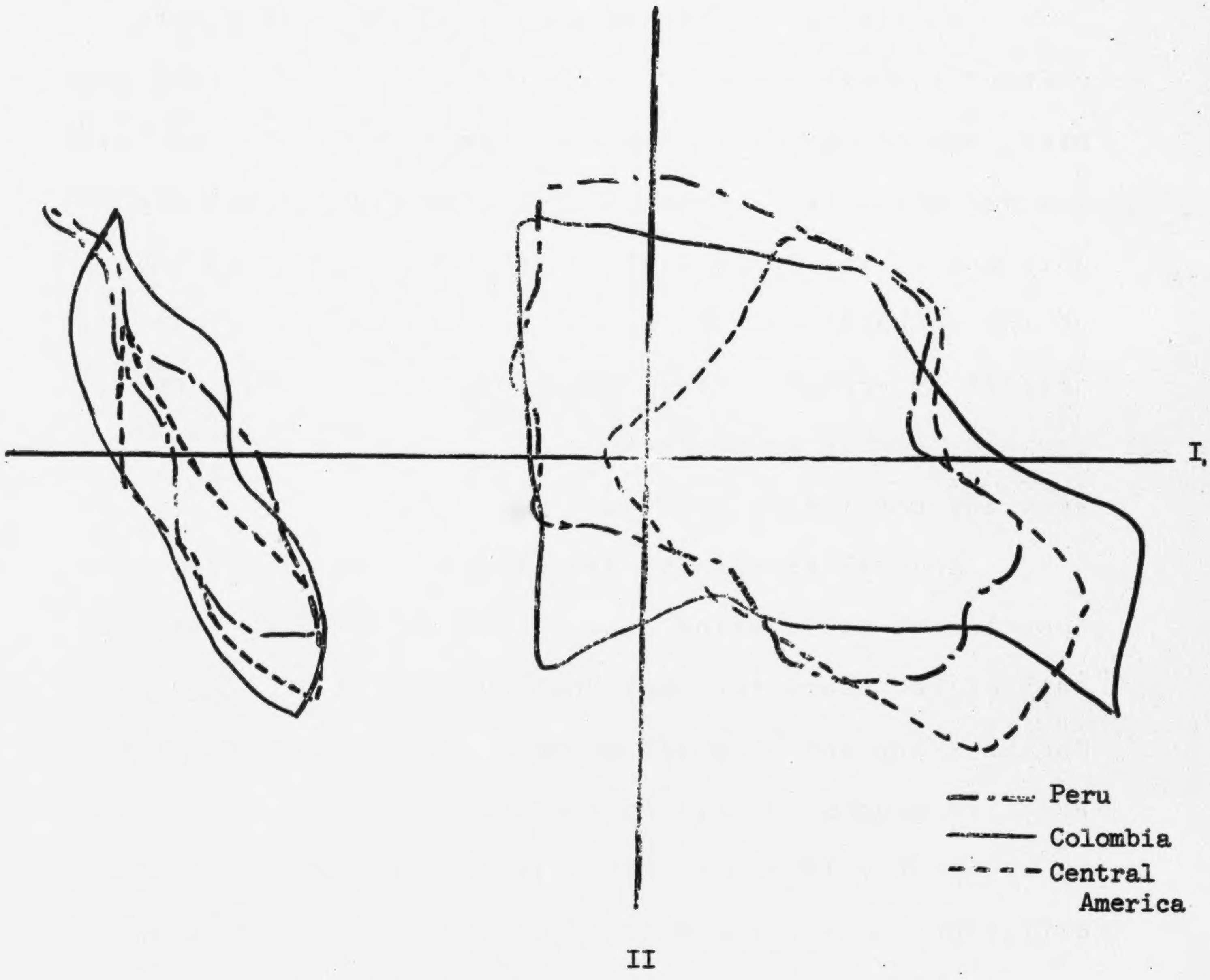

FIG. 1. OUTLINE OF THE SCATTERPLOT FOR FACTOR I (UPWARD) MOBILITY THROUGH EDUCATION) AND FACTOR II (SELF-DESCRIPTION)

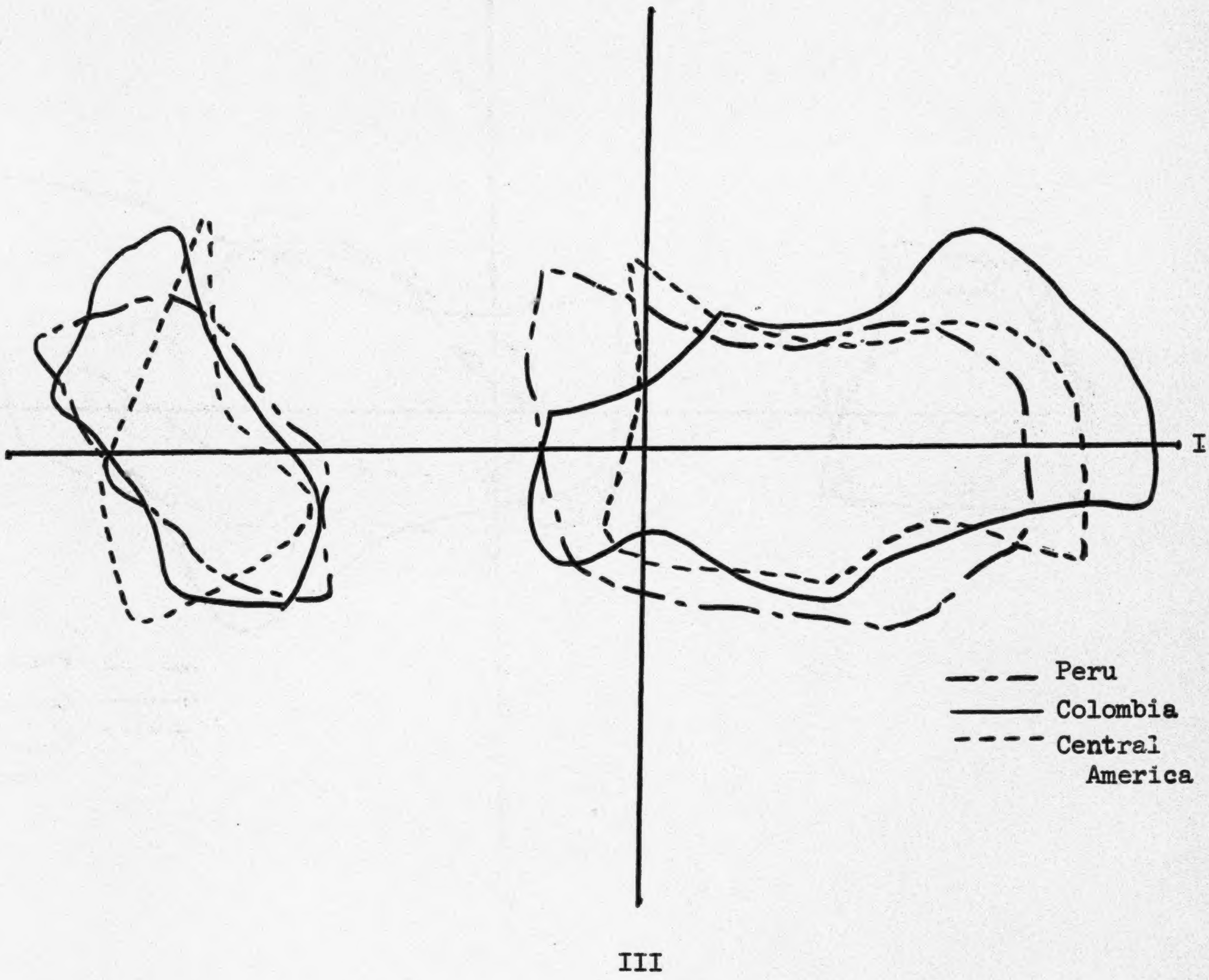

FIG. 2. OUTLINE OF THE SCATTERPLOT FOR FACTOR I (UPWARD MOBILITY THROUGH EDUCATION) AND FACTOR III (SELF-PERCEPTION)

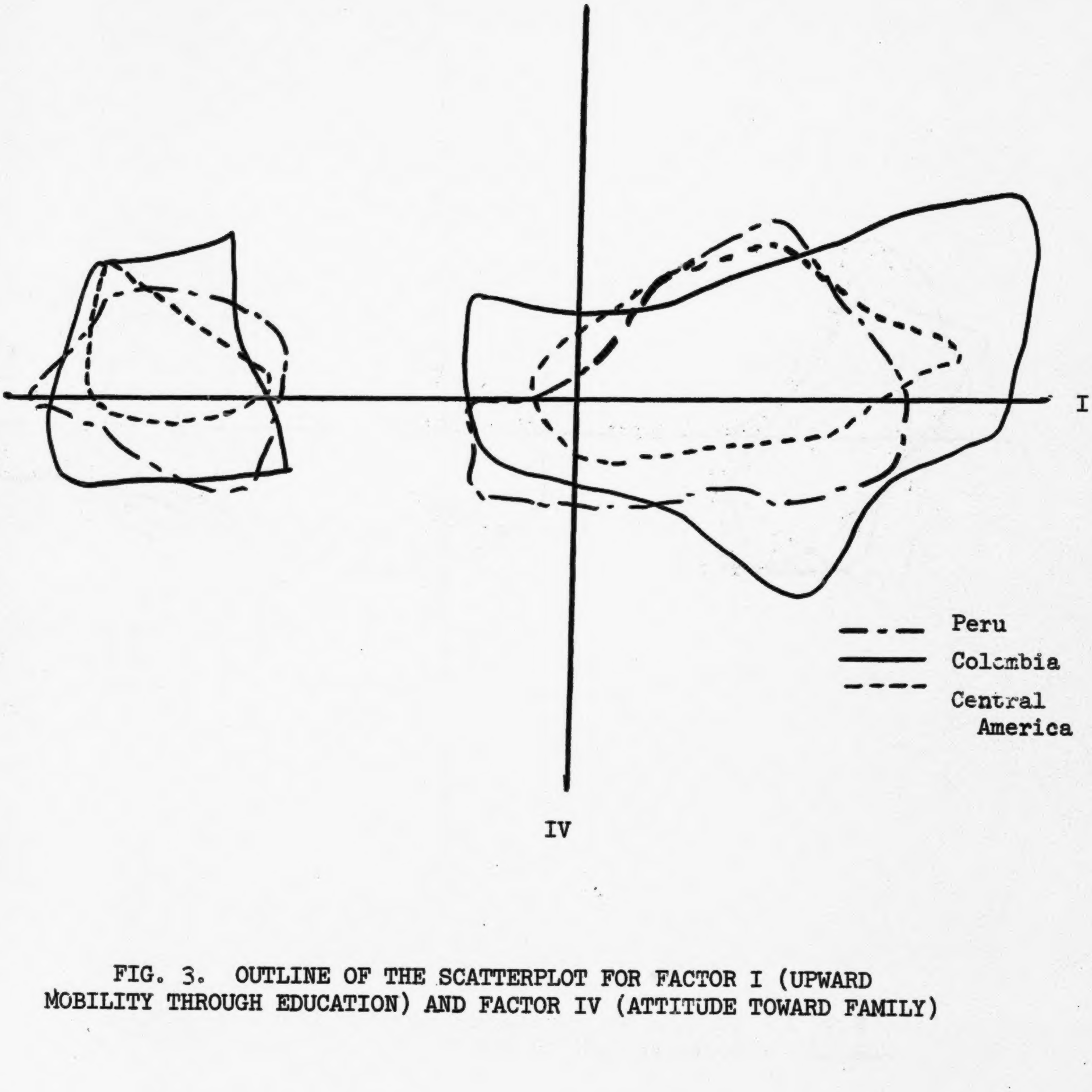

FIG. 3. OUTLINE OF THE SCATTERPLOT FOR FACTOR I (UPWARD MOBILITY THROUGH EDUCATION) AND FACTOR IV (ATTITUDE TOWARD FAMILY)

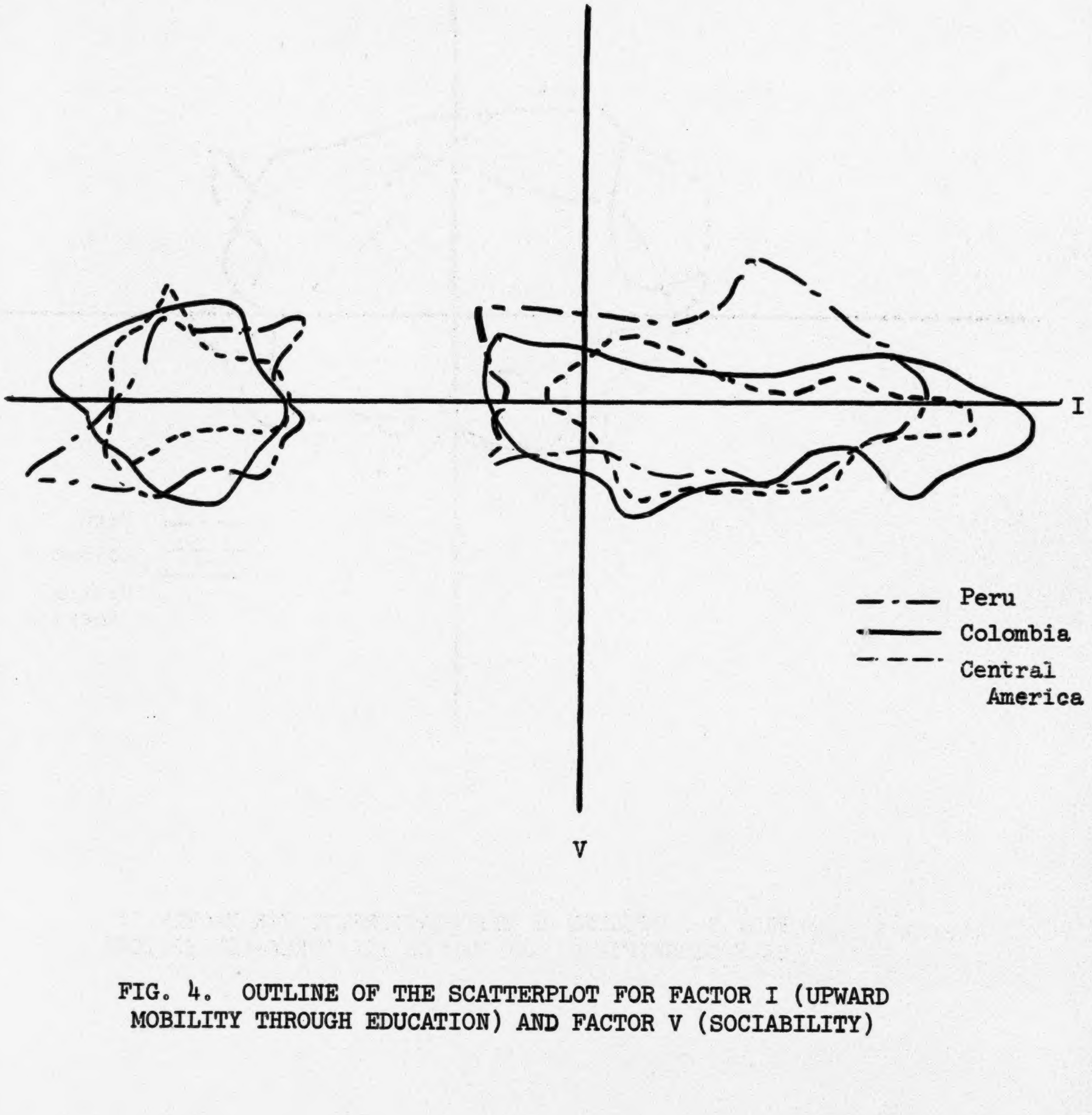

FIG. 4. OUTLINE OF THE SCATTERPLOT FOR FACTOR I (UPWARD MOBILITY THROUGH EDUCATION) AND FACTOR V (SOCIABILITY)

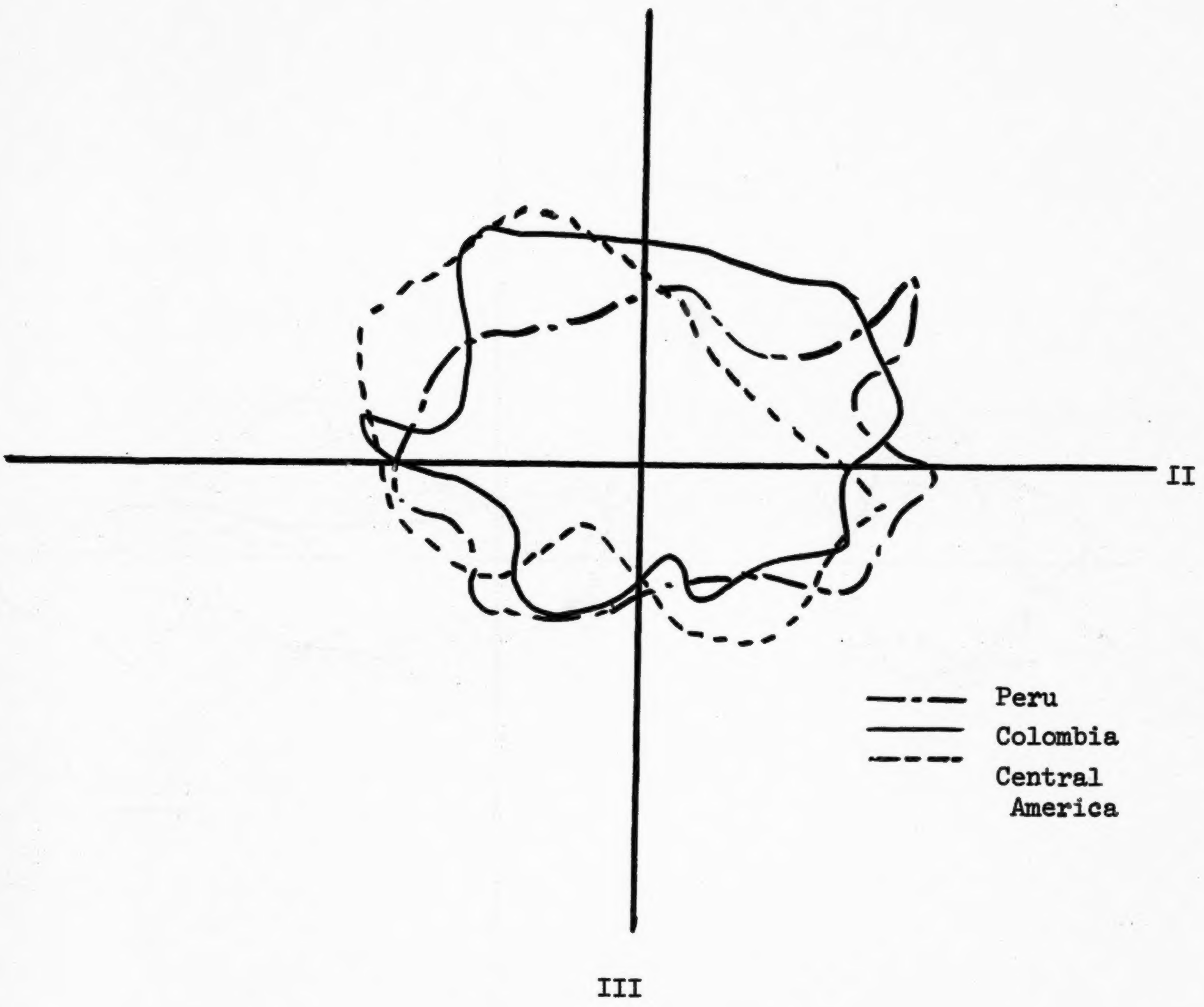

FIG. 5. OUTLINE OF THE SCATTERPLOT FOR FACTOR II (SELF-DESCRIPTION) AND FACTOR III (SELF-PERCEPTION)

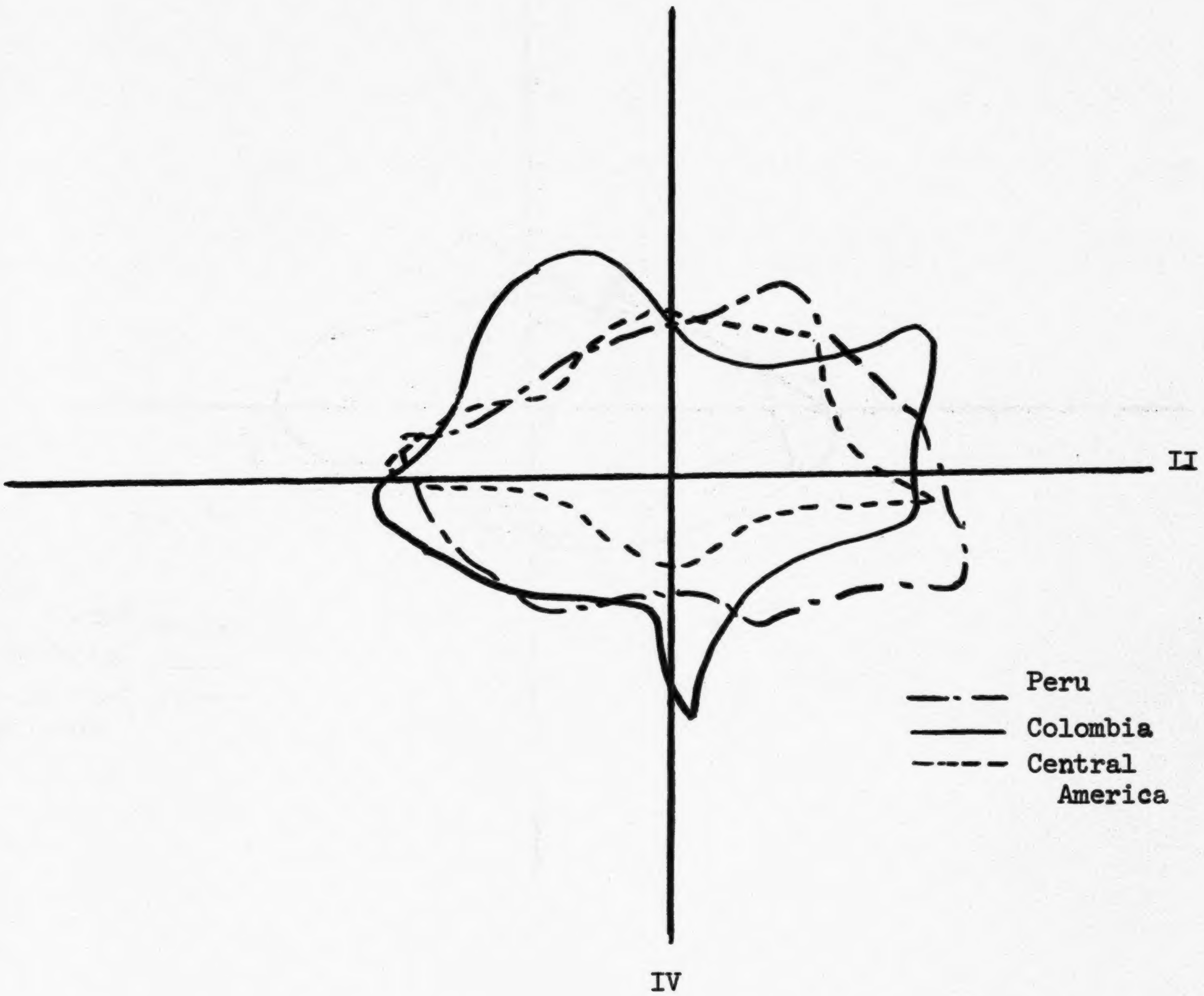

FIG. 6. OUTLINE OF THE SCATTERPLOT FOR FACTOR II (SELF-DESCRIPTION) AND FACTOR IV (ATTITUDE TOWARD FAMILY)

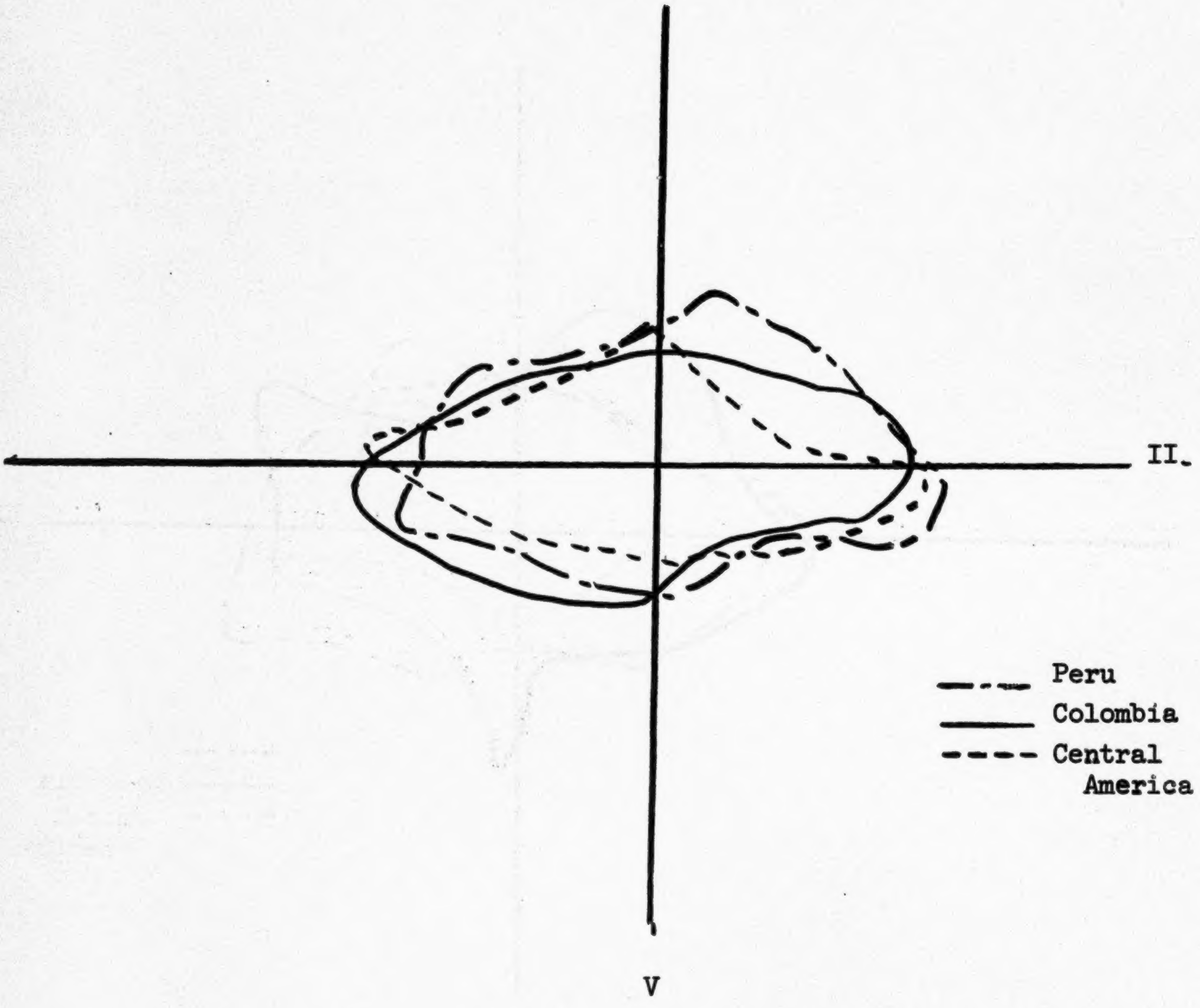

FIG. 7. OUTLINE OF THE SCATTERPLOT FOR FACTOR II (SELF-DESCRIPTION) AND FACTOR V (SOCIABILITY)

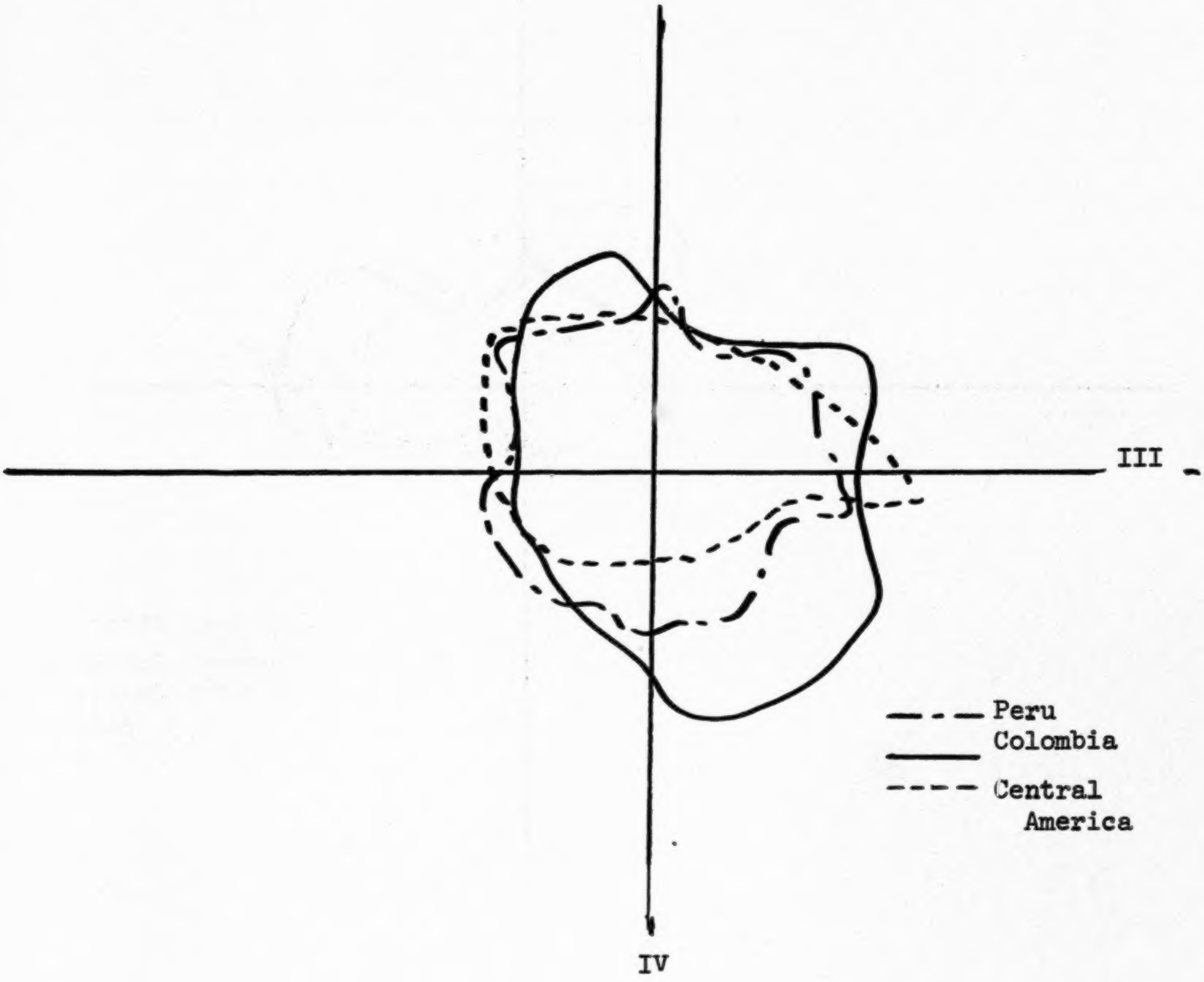

FIG. 8. OUTLINE OF THE SCATTERPLOT FOR FACTOR III (SELF-PERCEPTION) AND FACTOR IV (ATTITUDE TOWARD FAMILY)

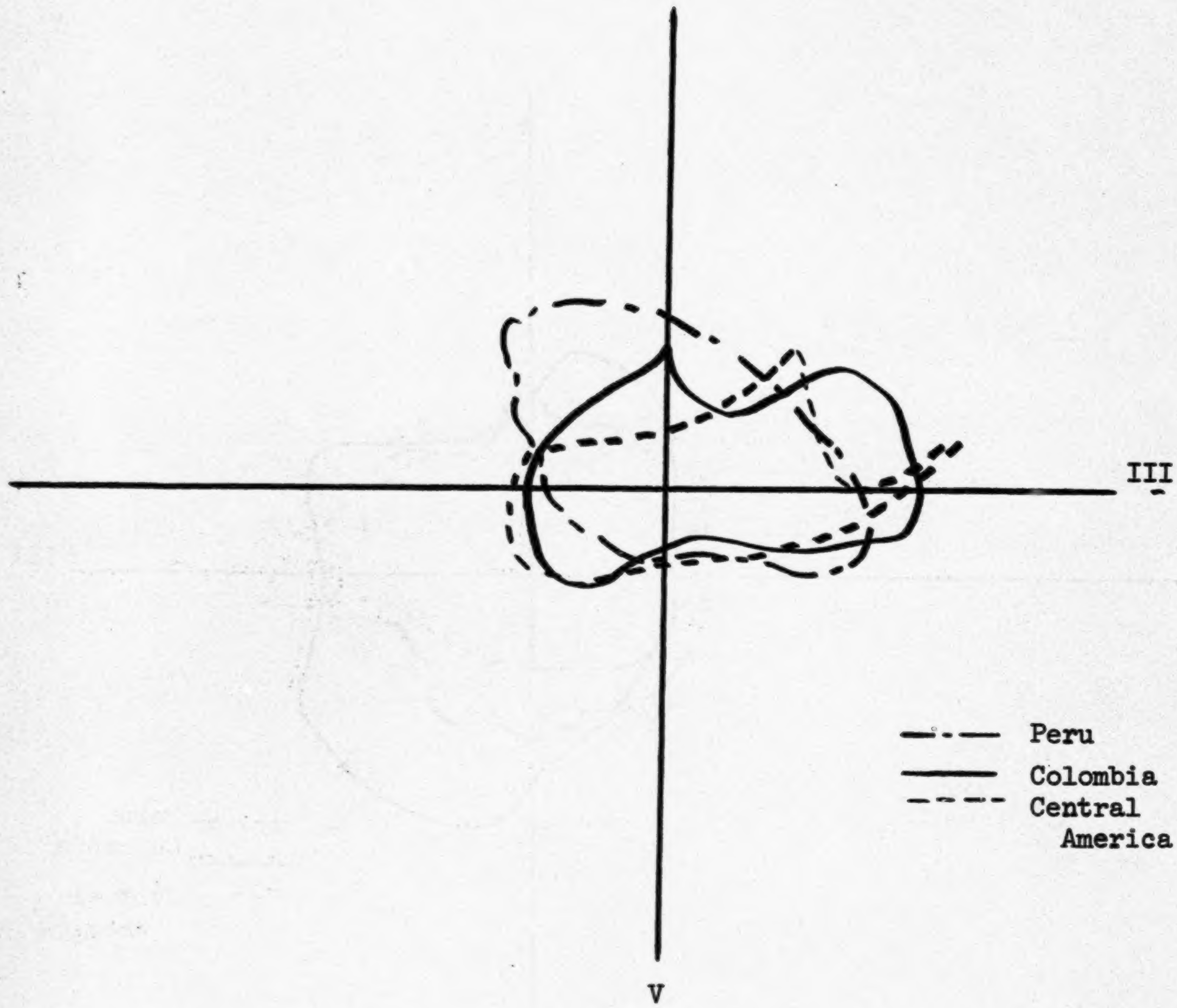

FIG. 9. OUTLINE OF THE SCATTERPLOT FOR FACTOR III (SELF-PERCEPTION) AND FACTOR V (SOCIABILITY)

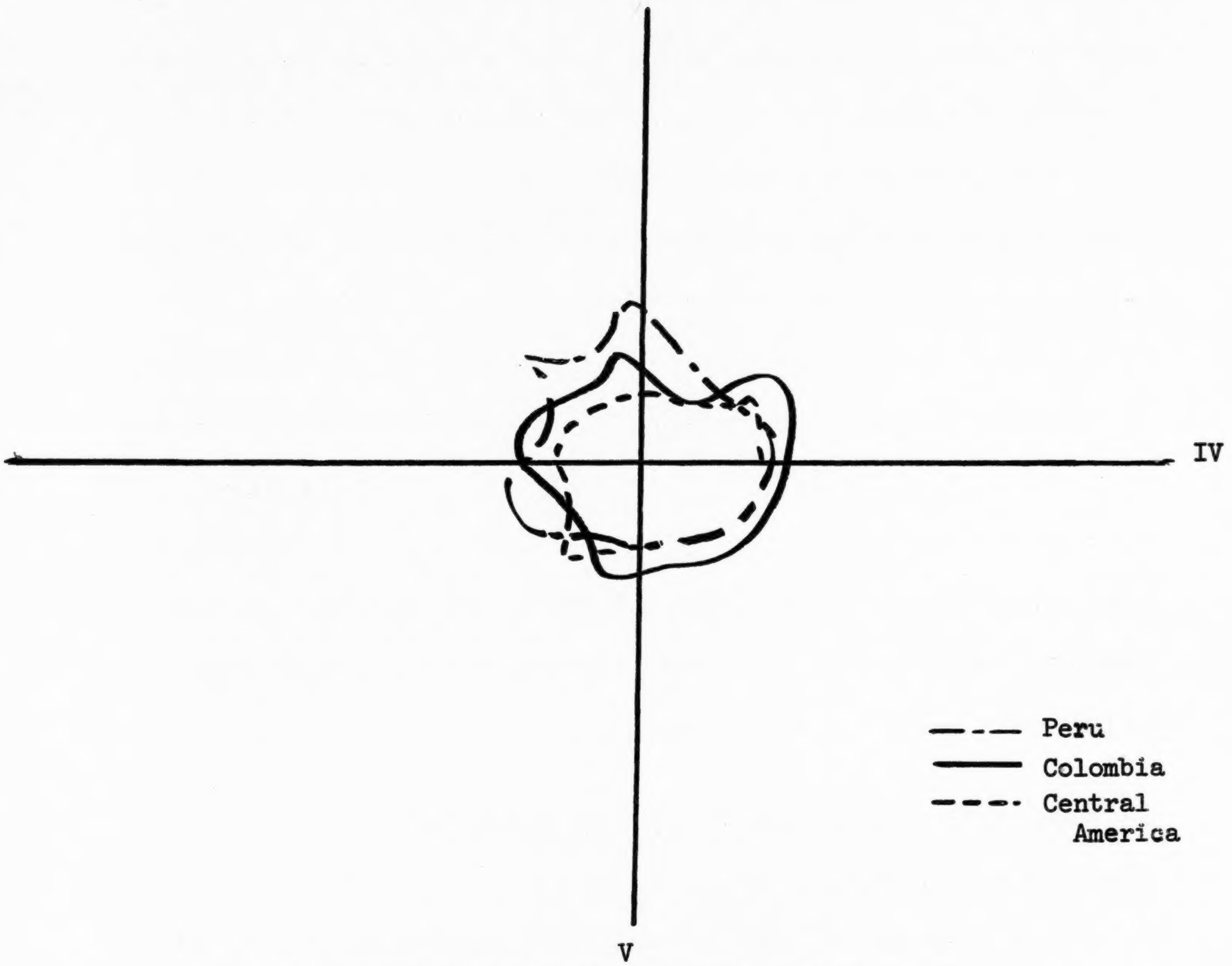

FIG. 10. OUTLINE OF THE SCATTERPLOT FOR FACTOR IV (ATTITUDE TOWARD FAMILY) AND FACTOR V (SOCIABILITY)

Upward Mobility Through Educational Achievement (I)

Table II reports the summary of the double classification analysis of variance for factor I; the means specified by country and function are given in Table III. The country main effect was significant at the .01 level, indicating differences between the executives in Peru, Colombia, and Central America on this factor. The executives from Peru scored highest on this factor ($\overline{X}$ = 1.62) and Central American executives scored lowest ($\overline{X}$ = -2.18).

The country by function interaction was significant at the .01 level. The means for the individual cells are graphed in Figure 11. It can be seen from this graph that operations executives in Peru are high on this factor while operations executives from Colombia are relatively low. In Central America and Colombia the marketing executives scored relatively high on this factor.

Self-Description in Terms of the World of Reality and Concrete Areas (II)

A summary of the anlaysis of variance of the factor scores for factor II presented in Table IV reveals a country by function interaction significant at the .05 level. Table V contains the mean factor scores; the means for the individual cells are plotted in Figure 12. It can be seen from Figure 12 that operations and general administration executives

TABLE II

SUMMARY OF ANALYSIS OF VARIANCE ON FACTOR SCORES OF 382 LATIN AMERICAN EXECUTIVES FOR "UPWARD MOBILITY THROUGH EDUCATIONAL ACHIEVEMENT"

Source	df	Mean Square	F
Country	2	6036043	7.44**
Function	2	952816	1.17
Country x Function	4	5441117	6.71**
Within	373	810383	
Total	381		

**Significant at the 1% level

TABLE III

MEANS OF FACTOR SCORES OF 382 LATIN AMERICAN EXECUTIVES FOR "UPWARD MOBILITY THROUGH EDUCATIONAL ACHIEVEMENT

Function	Country			
	Peru	Colombia	Central America (Puerto Rico, El Salvador, Nicaragua)	Total
General Administration	.01 N=30	-.27 N=45	-4.79 N=18	1.05 N=93
Marketing	-.22 N=39	.53 N=40	4.63 N=17	.95 N=96
Operations	2.53 N=133	-6.09 N=50	-2.66 N=10	.03 N=193
Total	1.62 N=202	-2.18 N=135	-.76 N=45	

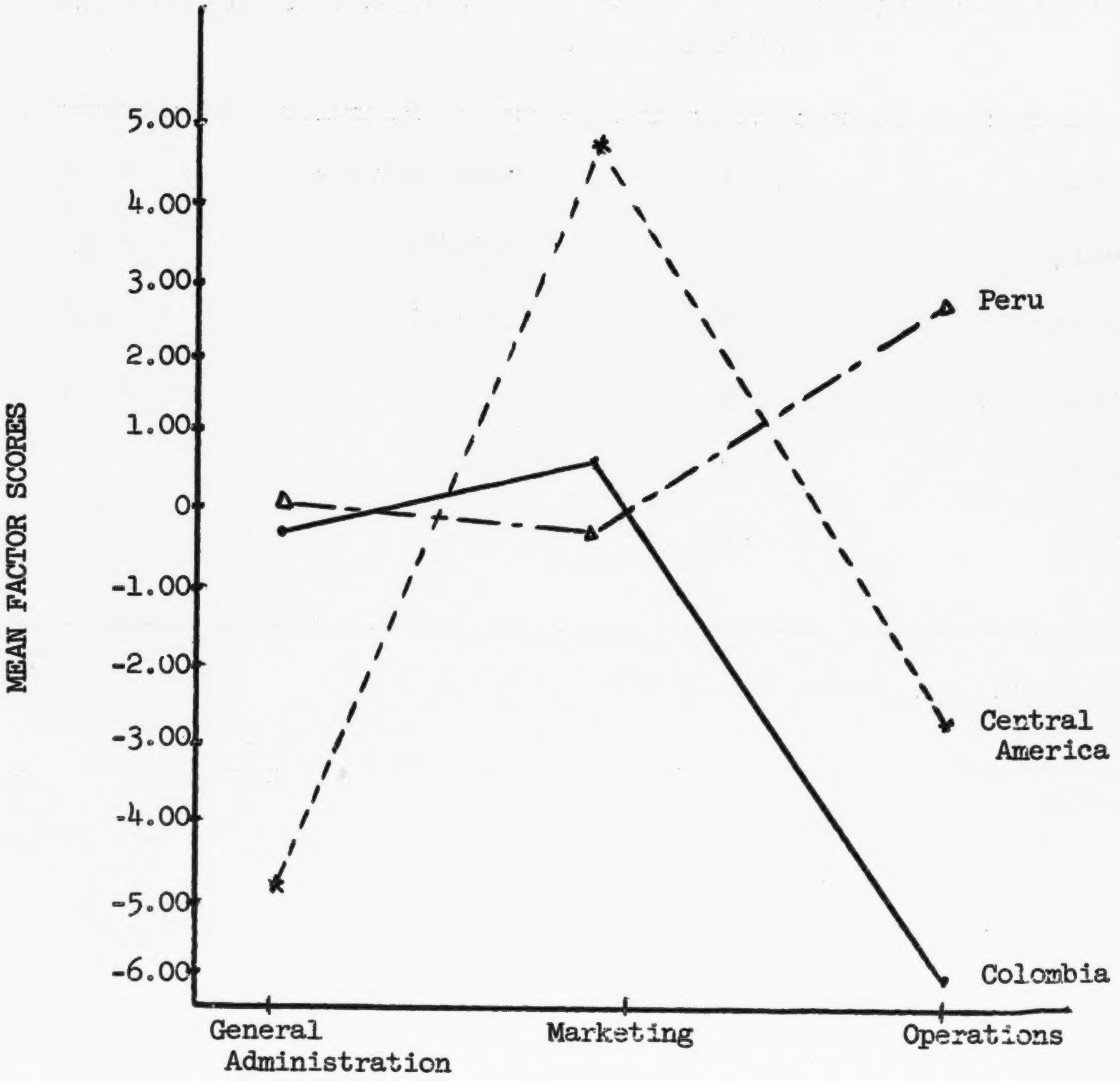

FIG. 11. COUNTRY BY FUNCTION INTERACTION OF FACTOR SCORES FOR FACTOR I (UPWARD MOBILITY THROUGH EDUCATION)

TABLE IV

SUMMARY OF ANALYSIS OF VARIANCE ON FACTOR SCORES OF 382 LATIN AMERICAN EXECUTIVES FOR " SELF-DESCRIPTION IN TERMS OF THE WORLD OF REALITY AND CONCRETE AREAS".

Source	df	Mean Square	F
Country	2	326881	2.53
Function	2	65515	N.S.
Country x Function	4	346959	2.69*
Within	373	128721	
Total	381		

* Significant atthe 5% level.

TABLE V

MEANS OF FACTOR SCORES OF 382 LATIN AMERICAN EXECUTIVES FOR "SELF-DESCRIPTION IN TERMS OF THE WORLD OF REALITY AND CONCRETE TERMS".

Function	Country			
	Peru	Colombia	Central America (Puerto Rico, El Salvador, Nicaragua)	Total
General Administration	.22 N=30	-1.06 N=45	-.88 N=18	-.61 N=93
Marketing	-.47 N=39	-.70 N=40	-.47 N=17	-.57 N=96
Operations	.91 N=133	.01 N=50	-.94 N=10	.58 N=193
Total	.53 N=202	-.56 N=135	-.74 N=45	

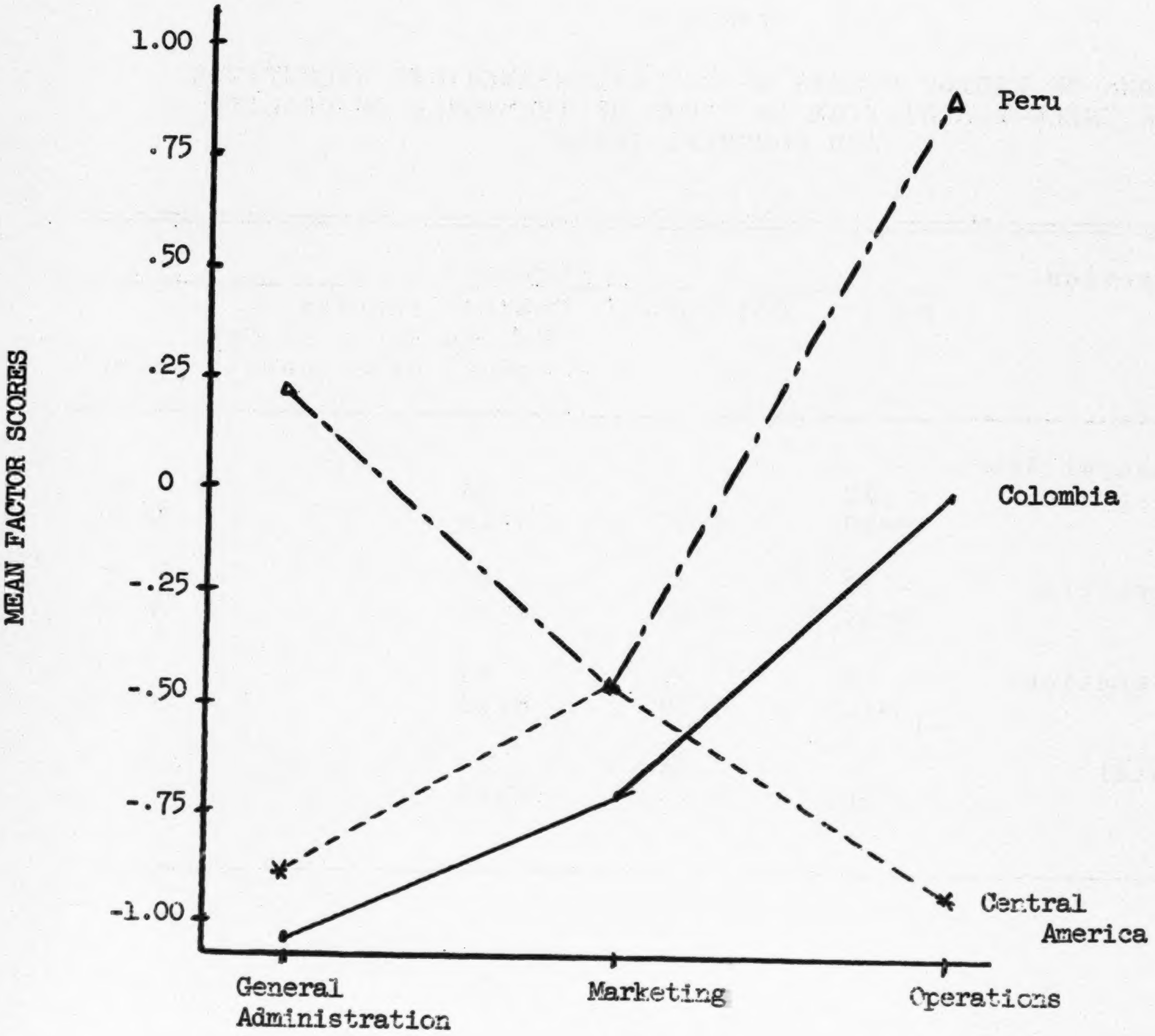

FIG. 12 COUNTRY BY FUNCTION INTERACTION OF FACTOR SCORES FOR FACTOR II (SELF-DESCRIPTION)

from Peru were high on this factor in contrast to general administration and operations executives from Central America who were relatively low. Colombian operations executives had a mean factor score more like the Peruvian executives in operations, but the general administration executive from Colombia was similar to the general administration executive from Central America. There were no real differences between the marketing personnel from the three countries on this factor.

Self-Perception of Personal Ability and Achievement in More Abstract Areas (III).

Table VI, a summary of the analysis of variance for factor III, shows the country by function interaction to be significant at the .01 level. The means of the factor scores are reported in Table VII. Figure 13 graphically demonstrates that the significant interaction effect is due to the Colombian group.

Attitude Toward Family (IV)

Table VIII reports the summary of the analysis of variance on the factor scores for factor IV; the country main effect is significant at the .01 level. As indicated in the table of means (Table IX) the Central American executives were highest on this factor ($\overline{X} = 1.01$) and the Peruvian executives are lowest ($\overline{X} = -.20$).

TABLE VI

SUMMARY OF ANALYSIS OF VARIANCE ON FACTOR SCORES OF 382 LATIN AMERICAN EXECUTIVES FOR "SELF-PERCEPTION OF PERSONAL ABILITY AND ACHIEVEMENT IN MORE ABSTRACT AREAS."

Source	df	Mean Square	F
Country	2	148484	2.79
Function	2	38941	N.S.
Country x Function	4	276609	5.21**
Within	373	53081	
Total	381		

**Singificant at the 1% level

TABLE VII

MEANS OF FACTOR SCORES OF 382 LATIN AMERICAN EXECUTIVES FOR "SELF-PERCEPTION OF PERSONAL ABILITY AND ACHIEVEMENT IN MORE ABSTRACT AREAS."

Function	Country			
	Peru	Colombia	Central America (Puerto Rico, El Salvador, Nicaragua)	Total
General Administration	.02 N=30	-.07 N=45	.95 N=18	.15 N=93
Marketing	-.40 N=39	-.28 N=40	.28 N=17	-.23 N=96
Operations	-.16 N=133	.37 N=50	1.05 N=10	.04 N=193
Total	-.18 N=202	.03 N=135	.72 N=45	

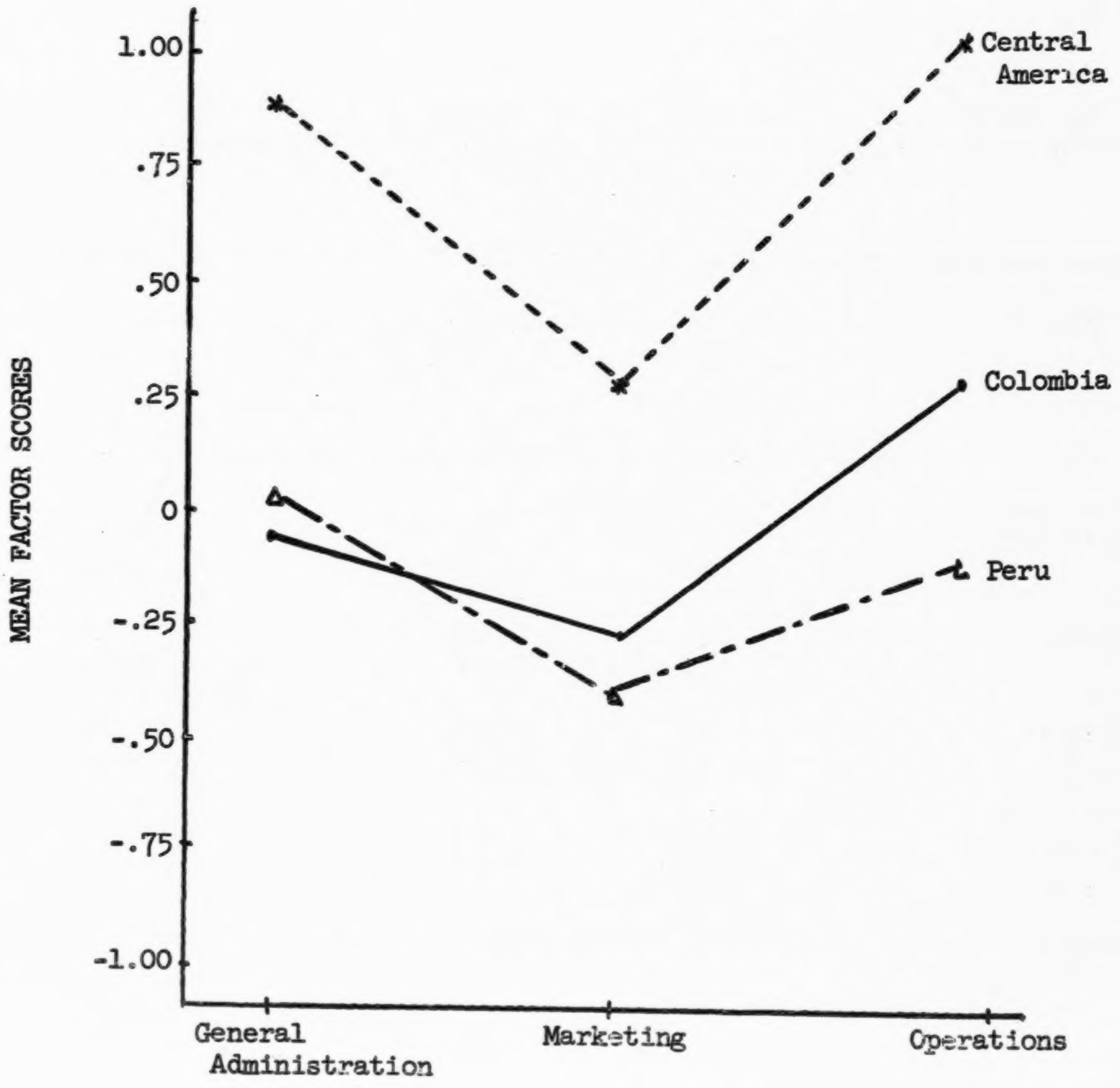

FIG. 13. COUNTRY BY FUNCTION INTERACTION OF FACTOR SCORES FOR FACTOR III (SELF-PERCEPTION)

TABLE VIII

SUMMARY OF ANALYSIS OF VARIANCE ON FACTOR SCORES OF 382 LATIN AMERICAN EXECUTIVES FOR " ATTITUDE TOWARD FAMILY."

Source	df	Mean Square	F
Country	2	273223	6.54**
Function	2	112092	2.66
Country x Function	4	55193	1.32
Within	373	41769	
Total	381		

**Significant at the 1% level

TABLE IX

MEANS OF FACTOR SCORES OF 382 LATIN AMERICAN EXECUTIVES FOR "ATTITUDE TOWARD FAMILY."

Function	Country			
	Peru	Colombia	Central America (Puerto Rico, El Salvador, Nicaragua)	Total
General Administration	-.41 N=30	-.23 N=45	1.37 N=18	.02 N=93
Marketing	-.74 N=39	-.49 N=40	.87 N=17	-.35 N=96
Operations	.00 N=133	.65 N=50	.62 N=10	.20 N=193
Total	-.20 N=202	.02 N=135	1.01 N=45	

Interpersonal Relations in Social Activities - Sociability (V)

A summary of the analysis of variance on factor scores for factor V is given in Table X; the means are reported in Table XI. The country main effect is significant at the .01 level. The executives from Peru ranked highest on this factor ($\overline{X} = .26$) and the executives from Colombia ranked lowest ($\overline{X} = -.31$). The country by function interaction effect, plotted in Figure 14, was significant at the .01 level. Peruvian marketing executives from Colombia and Central America scored lower on this factor.

TABLE X

SUMMARY OF ANALYSIS OF VARIANCE ON FACTOR SCORES OF 382 LATIN AMERICAN EXECUTIVES FOR "INTERPERSONAL RELATIONS IN SOCIAL ACTIVITIES - SOCIABILITY."

Source	df	Mean Square	F
Country	2	141965	6.20**
Function	2	12222	N.S.
Country x Function	4	93129	4.07**
Within	373	22880	
Total	381		

**Significant at the 1% level

TABLE XI

MEANS OF FACTOR SCORES OF 382 LATIN AMERICAN EXECUTIVES "INTERPERSONAL RELATIONS IN SOCIAL ACTIVITIES - SOCIABILITY

Function	Country			
	Peru	Colombia	Central America (Puerto Rico, El Salvador, Nicaragua)	Total
General Administration	-.19 N=30	.16 N=45	.28 N=18	.07 N=93
Marketing	.63 N=39	-.55 N=40	-.91 N=17	-.14 N=96
Operations	.25 N=133	-.53 N=50	.03 N=10	.03 N-193
Total	.26 N=202	-.31 N=135	-.22 N=45	

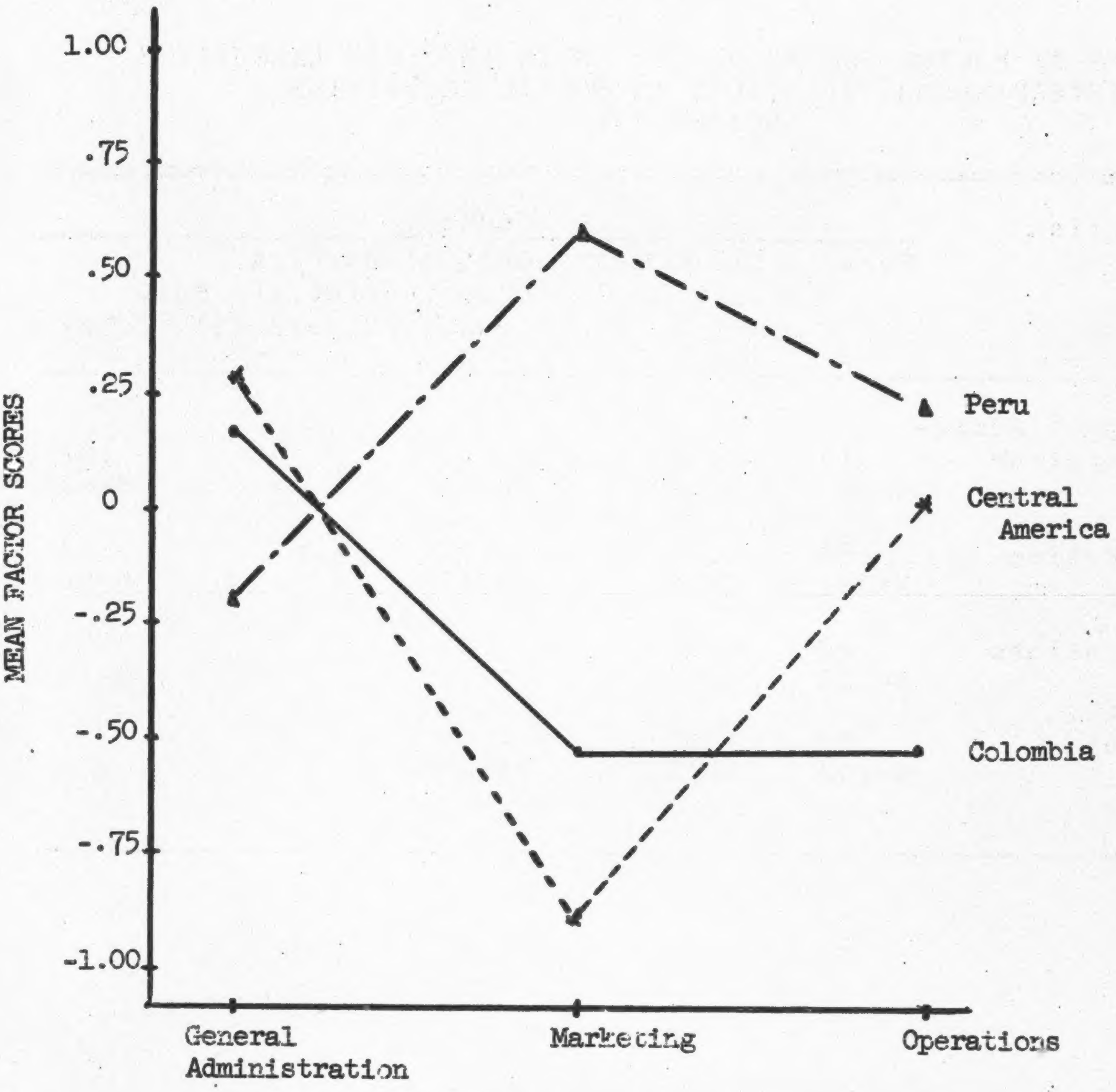

FIG. 14 COUNTRY BY FUNCTION INTERACTION OF FACTOR SCORES FOR FACTOR V (SOCIABILITY)

DISCUSSION

The generalizations made concerning the operations of the organization are made on the basis of factor scores. While the experimenters had no other data than factor scores the generalizations which follow can be checked against other recorded data in order to evaluate the accuracy of these generalizations.

The outlines of the scatter plots allowed the experimenter to make several generalizations. The upward mobility through education factor divided into two groups. The groups that received negative scores on this factor could probably be described as containing those individuals who succeeded in the organization even though they were low in education. It could be hypothesized that the percentage of people in this low group would be much smaller with the "parent company" because the "self made man" in management positions is on the decline.

The indications from this study were that ambitious people picked a route that would lead to success. If the family was not influential or did not have the financial support necessary to assure success within the culture, the person sought for or followed a different route. Generally the group taking an alternative route saw the way to success as being through education. It could be hypothesized from this study that an emerging status group in Latin America would be composed of members of a lower class whose family's were not influential and who obtained an education as a mechanism for upward mobility.

The above point concerning the negative relationship between educational achievement and socio-economic status of family is not meant to imply that the family was not important. There was a slight positive relationship between Factor I (education) and Factor IV (attitude toward family). These data would suggest that people high in the upward mobility through education factor would be higher in concern for and support of the family.

Another generalization could be drawn from looking at the individual who was high on the upward mobility through education factor. He appeared to be a person who had proven to himself that he could compete and thus had developed a strong self-concept and compulsive tendencies, i.e. when they described their earlier experiences they did not appear to have had time for sports or social activities.

The differences noted in the analysis of variance in the country by function interactions were probably due to the special emphasis given the various functions in the country by the organization. In Peru one would expect that there was greater emphasis on production which required highly skilled technical people (Engineers, Geologist, etc.) While in Central America and Colombia the emphasis appeared to be on marketing. The bright young man discovered the organization's emphasis in a particular country and located a job for himself in the important function; this was especially true of the person who had sought success through education.

The executive in the general administration area in Central America described himself as an individual coming from an influential family who had used his family as a vehicle of mobility. He was not highly concerned with upward mobility through education, but had progressed primarily through his personal contacts and good social skills. These skills were probably acquired early in his life. This executive was more like the Latin American executive described by Lauterbach (1965).

The Central American executives in operations, by contrast, were from a lower socio-economic class. They described themselves as being friendly, sociable people who saw developing a technical skill as the best road to success. These executives did not see education as a means of upward mobility. In general, however, the operations executive's profile was similar to the general administration executive's profile except in family influence and socio-economic support.

The ambitious young man in Central American who perceived education as a means of progress moved into marketing; as noted earlier the emphasis of the organization in Central America is in marketing and the educated people see this as their best line of progression. This marketing group was relatively low on the sociability factor. This raises an important theoretical question: As people are trained in a technical area have their abilities to handle social relations been reduced? Another pertinent question is this: Do people with low interest in people and social activities migrate to a technical area, only to find that in certain organizational groups the only way to go up in the organization is through an area requiring high people skills such as marketing? The pattern of a negative relationship between upward mobility through education score and sociability score is consistent (See - Peru operations, Colombia marketing, etc.)

In comparison with other Latin American executives the executives in Peru were more concerned with education as a method of upward mobility. This was especially true with the operations group. It would appear from the factor profiles that the level of personal independence and technical capability would be much higher in Peru than in Central America or Colombia.

The operations executive in Peru appeared to be self-confident and organized. He came from a relatively low socio-economic background and emerged in the organization as a function of his education and technical ability. The marketing executive in Peru was not as self assured, but appeared to be outgoing, friendly and sociable. It seems apparent that this group would have lower morale than any of the other groups in Peru. It is reasonable to believe that they perceived themselves as outside the main stream of the organization. The main stream of the organization in Peru appeared to be operations.

The profile of the factor scores of the Peruvian executives in the general administration area were more like the operations executives' profile, leading to the hypothesis that they were promoted out of the operations group.

The operations executives in Colombia scored low in upward mobility through education. They described themselves as being products of a lower socio-economic group and as having advanced in the organization as a function of their technical competence. They realistically perceived themselves as being competent and self assured. This group did not picture themselves as outgoing or sociable.

Both the marketing and general administration executives in Colombia scored high on the upward mobility through education factor; they described themselves as coming from at least a middle class family although they did not appear to have maintained the close family ties that appeared to be important to the operations executive in Colombia. The general administration executive in Colombia was higher in social skills as compared with the marketing executive in Colombia. This difference may be due to a larger number of technical people (engineers, etc.) in the marketing group.

In general these data suggest that the organization imposes a structure in terms of the type of organization and also in terms of how it is perceived. In determining the characteristics of the person who gets to the executive level in an overseas subsidiary the culture of the organization is probably more influential than the national culture. For example, if in "Country X" oil was discovered and a refinery constructed, it could be hypothesized that the factor profile of the executives who would emerge would be more like the profile found in Peru. If in "Country X" the organization decided to establish a distribution center with marketing the major emphasis, the profile of the executives group would be more like the Central American executives' profile.

It appears from this study that factor scores describe people much better than discrete items. The items are probably much more sensitive to the economic structure of the country than the factor scores. If the economic structure of the country or if the demands of the organization change, the type of people needed and created by the country will change.

Implications of this Research

This study clearly demonstrates the utility of a broader approach to the use of biographical data. Not only do we have the advantages of quantification and empirical validity of a BIB but in addition this study implies that:

1. The factor structure of a Biographical Information Blank for various executive groups can provide insight into the emphasis the organization is placing on the various functions in a particular country.
2. The factor structure of the life history antecedents help us describe, in a parsimonious way, the personality characteristics of the top level executive in the various functions.

Suggestions for Future Research

This study dealt with executives in various functions in a large petrochemical organization. No concern was given in the present study to the effectiveness of the executive in the organization. An important study would be to compare the factor profile of the various executives to a criterion of success. It would be hypothesized that the profiles relating to success in Peru would be different from those relating to success in Colombia.

SUMMARY

The purpose of this study was to determine if there were differences in the factor structure of biographical information data of executives that were hidden by a global analysis. On the basis of Cassens study (1966) it was hypothesized that factor structure would be related to functional assignment and the emphasis given that function by the organization.

A life history questionnaire consisting of 62 continuous items was administered to 382 Latin American executives. These executives were employed in Peru, Colombia, and Central America in general administration, marketing and operations at a level in the organization where they influenced the formulation of policy. All were members of a large international petrochemical company.

A principle component factor analysis with an orthogonal rotation was performed; regression weights were determined for each item on the five factors identified and described. Factor scores were computed for each executive on each of these five factors. The five factors as named by Cassens (1966) were as follows:

1. Upward mobility through the means of educational achievement.
2. Self-description in terms of the world of reality and concrete areas.
3. Self-perception of personal ability and achievement in more abstract areas.
4. Attitudes toward family.
5. Interpersonal relations in social activities.

This study suggested that the structure of an industrial organization determines the type of person who will reach the executive level. The characteristics of the person who reaches this level will be affected by the organizational assignment as well as by country.

This study indicated the importance of the factor structure of biographical information for describing people in organizations. It demonstrated that factor scores describe people better than discrete life history items.

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APPENDICES

APPENDIX A

INTERCORRELATION MATRIX FOR LATIN AMERICAN EXECUTIVES

Item No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	1.0													
2	06	1.0												
3	08	45	1.0											
4	06	-16	-13	1.0										
5	-09	-20	-10	08	1.0									
6	-08	-05	-06	03	29	1.0								
7	05	-08	-04	07	21	26	1.0							
8	03	05	-06	-03	13	-07	-04	1.0						
9	-02	08	10	-04	-04	-04	04	06	1.0					
10	-08	06	01	-09	-06	00	02	00	20	1.0				
11	04	00	-05	00	01	12	12	-02	-05	-22	1.0			
12	-02	-24	-17	11	09	02	03	-07	-21	-36	05	1.0		
13	-10	-06	-05	06	05	03	02	-05	-02	21	-06	-06	1.0	
14	04	05	01	-07	08	10	03	-03	-05	-22	55	03	-01	1.0
15	-11	10	08	-15	-06	05	-02	05	15	68	-16	-28	22	-17
16	-05	10	11	-15	-06	05	01	07	11	66	-14	-31	17	-18
17	-25	-03	-06	-10	-05	07	-02	-01	13	53	-12	-18	23	-17
18	-11	09	06	-11	-07	02	-09	08	19	63	-15	-31	09	-20
19	-12	09	05	-10	-10	02	-05	02	09	46	-07	-23	04	-11
20	-15	04	03	-13	-08	00	-01	02	07	46	-11	-12	07	-08
21	-19	09	10	-15	-09	01	-05	05	14	47	-07	-16	13	-07
22	-12	15	04	-09	-04	00	-05	04	17	61	-11	-31	17	-16
23	-16	02	-04	-07	-06	00	-04	-04	12	66	-17	-25	18	-19
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25	-16	08	06	-14	-06	04	-09	03	15	65	-06	-28	14	-11
26	-12	01	-03	-06	01	04	03	07	11	61	-19	-24	13	-22
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28	-04	04	03	-11	-03	-02	-01	05	07	46	-18	-22	11	-18
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30	-02	-05	02	-03	00	-02	-02	03	-03	01	-05	03	07	-03
31	-04	-15	-02	04	23	14	14	13	00	03	-05	05	05	02

APPENDIX A (CONTINUED)

INTERCORRELATION MATRIX FOR LATIN AMERICAN EXECUTIVES

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
32	-14	-08	-07	08	04	02	08	-05	05	20	-07	-02	12	-13
33	08	-08	-05	02	05	13	11	-01	-13	-17	32	04	-13	27
34	-01	02	-02	03	-04	07	-09	-10	-02	-02	-01	-06	03	02
35	07	-09	-01	12	09	03	04	00	-01	-04	15	-01	-01	05
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54	08	02	01	12	06	06	-04	09	01	02	02	-06	05	01
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61	05	-10	-04	06	07	04	04	01	01	-09	19	03	-10	20
62	02	05	11	-05	04	-07	01	08	03	-03	03	01	-04	03

APPENDIX A (CONTINUED)

INTERCORRELATION MATRIX FOR LATIN AMERICAN EXECUTIVES

	15	16	17	18	19	20	21	22	23	24	25	26	27	28
15	1.0													
16	63	1.0												
17	63	47	1.0											
18	66	56	50	1.0										
19	51	40	40	60	1.0									
20	51	39	51	36	36	1.0								
21	55	45	55	40	32	74	1.0							
22	69	54	55	62	46	49	54	1.0						
23	63	55	55	57	47	46	47	60	1.0					
24	60	44	53	51	45	47	48	57	45	1.0				
25	74	61	58	70	55	57	59	71	61	71	1.0			
26	63	51	53	67	46	45	45	59	59	49	65	1.0		
27	56	48	46	62	40	39	39	51	51	46	59	84	1.0	
28	49	46	38	58	40	30	30	54	41	42	54	72	80	1.0
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33	-13	-12	-12	-13	-10	-03	-09	-15	-08	-07	-07	-07	-05	-07
34	-05	01	-07	-06	-07	06	06	-03	03	-02	-07	-05	-01	-04
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38	-20	-13	-28	-15	-13	-16	-26	-19	-17	-16	-15	-16	-15	-14

APPENDIX A (CONTINUED)

INTERCORRELATION MATRIX FOR LATIN AMERICAN EXECUTIVES

	15	16	17	18	19	20	21	22	23	24	25	26	27	28
39	-04	-01	-05	-01	-02	-03	-08	-01	-03	-05	-03	-07	-09	-01
40	05	06	12	03	07	13	17	04	02	08	08	04	07	04
41	12	10	24	07	05	16	23	14	19	08	13	14	14	11
42	11	03	18	07	09	15	17	18	04	15	16	06	09	09
43	19	13	21	12	13	14	19	11	12	21	18	16	14	10
44	00	01	06	00	04	13	13	08	00	08	02	06	06	05
45	02	03	04	-04	-04	11	11	-01	-02	02	-02	00	01	01
46	-03	-04	-08	04	01	-04	-05	01	05	-08	02	-02	-06	-07
47	-03	-01	-03	-02	-10	01	02	-01	00	04	-01	-06	-08	-06
48	07	08	11	01	05	06	15	04	07	12	11	04	05	03
49	17	16	28	16	13	20	31	20	19	23	19	08	08	-03
50	03	07	11	05	01	03	12	11	08	05	03	01	00	-06
51	-01	04	-02	-03	-03	-01	06	-01	-08	-03	-04	00	02	01
52	-03	-08	-03	00	-03	-10	-18	-05	03	-09	-03	03	-01	04
53	04	07	-01	00	07	05	08	03	00	-03	02	06	05	02
54	02	03	-04	-03	00	01	04	-05	-05	-02	03	02	01	-01
55	-09	-09	-03	02	-07	-13	-08	02	-10	-04	-08	-05	-02	-01
56	-04	-04	00	04	03	-08	-10	01	04	-14	-07	-01	-03	00
57	-16	-12	-17	-07	-06	-27	-29	-18	-13	-23	-21	-11	-11	-07
58	-11	-16	-08	-08	-02	-04	-06	-06	-03	-09	-07	-09	-03	-05
59	-10	-09	-03	-02	-06	-01	-04	-06	-01	-03	-05	-04	-02	-01
60	08	02	12	03	09	03	06	09	05	12	10	11	09	13
61	-06	-09	-05	-04	-08	02	-07	-11	-06	01	-04	-01	01	-01
62	-05	-09	-04	-05	-06	-04	00	-07	00	-10	-12	-03	-02	-01

APPENDIX A (CONTINUED)

INTERCORRELATION MATRIX FOR LATIN AMERICAN EXECUTIVES

29	1.0													
30	-09	1.0												
31	-13	04	1.0											
32	03	-07	03	1.0										
33	05	00	00	15	1.0									
34	05	-06	-06	-04	01	1.0								
35	00	-03	02	02	30	-01	1.0							
36	08	-06	-01	05	02	04	22	1.0						
37	04	-10	03	03	29	04	14	00	1.0					
38	02	-08	01	12	24	04	10	-01	70	1.0				
39	-10	00	01	01	20	02	08	07	04	05	1.0			
40	07	00	-10	03	-04	-01	04	09	-06	-06	-22	1.0		
41	03	02	01	-01	-07	00	-05	00	-09	-07	-28	26	1.0	
42	08	00	06	-08	-09	-05	01	05	-10	-14	-04	14	18	1.0
43	-09	11	04	00	-19	-13	-09	05	-25	-23	-09	33	20	11
44	05	03	-11	00	-13	06	-14	07	-13	-15	-08	13	08	11
45	02	00	-10	-08	00	00	-05	04	-06	-11	-21	12	09	04
46	-03	-07	07	00	05	03	07	-10	10	12	16	-07	-08	-06
47	05	-09	-01	-11	02	-05	02	07	07	03	09	-04	-02	07
48	04	07	-08	-02	-17	01	-21	-12	-19	-22	-24	20	19	03
49	20	-08	-21	-06	-08	02	-03	01	-12	-14	-12	17	17	12
50	11	-07	-11	00	-01	02	00	06	01	00	-10	09	15	15
51	-03	11	-03	-11	00	08	02	03	04	02	03	06	07	07
52	-15	08	19	10	13	02	02	-11	08	13	17	-14	-09	-06
53	-04	-02	00	05	-01	05	-03	07	-05	-09	-04	09	08	03
54	-03	-04	06	-02	01	01	02	02	-02	-05	-09	11	04	-01
55	08	-03	-11	-03	03	-04	12	-01	03	-02	-03	-12	-03	02
56	-08	-02	-04	02	03	-07	05	03	05	05	02	00	-07	-04
57	-04	-04	-14	09	12	-07	12	-06	11	15	04	-09	-11	-16
58	-09	-06	06	03	21	03	23	00	19	08	15	-12	-14	-17
59	-05	-02	14	04	18	01	24	11	14	06	22	-09	-16	-08
60	-05	05	07	00	-03	-08	-07	-04	-14	-07	-01	05	04	06
61	-02	03	-01	08	45	-03	31	04	26	20	17	-07	-07	03
62	00	02	07	00	11	-01	15	-01	02	06	00	00	-01	-08

APPENDIX A (CONTINUED)

INTERCORRELATION MATRIX FOR LATIN AMERICAN EXECUTIVES

	43	44	45	46	47	48	49	50	51	52	53	54	55	56
43	1.0													
44	23	1.0												
45	13	55	1.0											
46	-14	-53	-47	1.0										
47	08	07	-04	-01	1.0									
48	17	17	19	-13	-19	1.0								
49	22	14	13	-09	05	10	1.0							
50	06	11	06	-05	06	02	45	1.0						
51	07	07	04	-07	01	04	11	02	1.0					
52	-16	-16	-13	09	-04	-10	-41	-22	-04	1.0				
53	04	05	02	-03	-03	11	00	05	03	00	1.0			
54	03	-04	02	02	-04	07	-10	00	-02	05	55	1.0		
55	-19	-05	-05	05	12	-09	-04	02	-16	05	-07	-03	1.0	
56	-23	-15	-11	17	-02	-05	-14	-11	-10	16	-03	-01	11	1.0
57	-32	-26	-09	17	-09	-04	-19	-07	-07	22	08	05	22	38
58	-19	-08	-06	14	-09	-10	-07	-06	02	14	01	00	12	11
59	-15	-02	-12	11	-03	-14	-18	-06	03	13	-11	-10	09	05
60	14	04	-07	-07	01	08	05	06	-06	-05	00	07	03	-14
61	-17	-07	00	06	05	-16	-17	-01	-02	08	-05	02	05	08
62	-10	-02	02	01	-01	-05	08	08	07	-03	01	-07	10	02

	57	58	59	60	61	62
57	1.0					
58	13	1.0				
59	02	49	1.0			
60	-09	-03	00	1.0		
61	04	16	16	-07	1.0	
62	02	09	10	09	06	1.0

APPENDIX B

FACTOR LOADINGS FOR ALL ITEMS FOR LATIN AMERICAN EXECUTIVES

Item	Factors				
No.	I	II	III	IV	V
1	-22	17	05	-30*	19
2	13	-29*	16	-30*	04
3	08	-24	12	-27*	02
4	-17	15	-12	06	15
5	-12	28*	-09	39*	-03
6	00	12	07	37*	-05
7	-07	19	02	23	-06
8	03	11	-04	-02	00
9	18	03	-02	-19	-03
10	77*	18	-08	-11	00
11	-21	01	50*	13	12
12	-36*	03	-07	21	-04
13	19	09	-15	04	01
14	-23	-05	49*	12	03
15	82*	13	02	-04	00
16	70*	09	-01	-07	05
17	71*	02	04	11	-11
18	76*	23	00	-12	00
19	59*	12	02	-07	03
20	63*	-02	20	10	-04
21	68*	-13	20	05	-03
22	78*	11	07	-08	-05
23	72*	18	-01	-03	-06
24	69*	01	21	-01	-06
25	84*	15	14	-02	01
26	79*	25*	-05	12	13
27	73*	23	00	13	16
28	65*	24	-06	10	13
29	04	-14	21	-16	00
30	09	02	-11	15	02
31	-02	18	-10	24	-07
32	21	26*	00	07	11
33	-21	32*	47*	11	13
34	-03	-04	06	-02	03
35	-14	26	29*	03	05
36	06	01	12	09	02
37	-33*	29*	41*	-15	17
38	-32*	32*	32*	-16	17

APPENDIX B (CONTINUED)

FACTOR LOADINGS FOR ALL ITEMS FOR LATIN AMERICAN EXECUTIVES

Item	Factors				
No.	I	II	III	IV	V
39	-10	31*	07	01	-22
40	14	-32*	06	-04	21
41	23	-25*	02	05	15
42	18	-17	11	09	-04
43	28*	-40*	-05	16	-02
44	13	-47*	14	41*	03
45	05	-40*	16	36*	15
46	-08	38*	-06	-45*	-06
47	-02	-05	13	-08	-13
48	16	-35*	-12	05	17
49	29	-44*	27*	-27*	-10
50	11	-25*	23	-14	01
51	-01	-14	14	00	05
52	-11	46*	-19	25*	03
53	06	-07	-11	00	61*
54	00	-01	-11	04	61*
55	-11	14	05	-06	-05
56	-07	30*	-17	-11	04
57	-27*	35*	-17	-17	23
58	-17	34*	22	09	-04
59	-12	33*	23	13	-20
60	13	-08	-03	07	-03
61	-14	31*	39*	10	08
62	-07	03	13	-05	-02

* Items used in defining factor (Cassens, 1965)

APPENDIX C

FACTORS SCORES FOR EACH OF 202 PERUVIAN EXECUTIVES EMPLOYED IN GENERAL ADMINISTRATION, MARKETING, OR OPERATIONS

Subjects	Factors				
	I	II	III	IV	V
General Administration					
1	-3.88	-0.91	1.60	-2.02	-0.49
2	5.34	1.12	-1.95	-2.35	-1.01
3	5.44	7.84	-2.04	2.39	-0.65
4	-2.63	3.23	-3.55	-0.19	0.34
5	5.14	-0.47	-1.15	0.63	0.98
6	1.88	1.52	2.55	-2.77	2.73
7	5.59	2.55	3.13	-1.62	-1.55
8	7.80	-0.31	-0.60	-2.66	0.16
9	6.09	-3.42	-1.23	0.93	-1.96
10	4.39	-1.45	1.20	-1.81	0.41
11	-11.84	-5.16	1.02	-3.59	-1.48
12	4.03	3.95	-0.86	-0.88	0.64
13	-4.08	0.24	2.49	-0.53	3.73
14	0.09	2.66	1.50	-4.22	-1.27
15	8.38	-5.11	0.96	2.43	1.20
16	2.19	-1.17	-0.27	-0.08	-1.50
17	4.20	4.80	1.49	-1.11	0.44
18	-13.86	0.71	-3.49	2.45	-1.56
19	-14.54	-1.36	0.40	0.98	0.27
20	6.74	-1.50	-1.38	-1.62	-1.07
21	7.79	3.44	0.16	6.18	-0.73
22	-13.94	-2.44	0.32	0.19	-2.29
23	6.57	-4.62	-0.29	-0.85	-0.82
24	4.19	-4.18	-0.62	-4.08	-2.34
25	-13.73	-2.79	-0.72	-0.31	1.66
26	-17.51	3.37	-1.05	3.19	0.26
27	6.66	0.59	-0.16	5.05	0.70
28	-2.25	6.78	3.14	-3.25	-1.94
29	9.30	-1.72	-0.90	-0.86	0.25
30	-3.21	0.68	0.83	-2.11	1.08
Marketing					
31	4.44	-2.17	0.94	-1.03	0.27
32	7.71	-3.81	-1.23	-1.38	-1.97
33	-13.97	0.85	-3.73	0.59	-0.65
34	-12.15	-4.18	-1.15	-0.66	2.43
35	-11.91	-5.45	-2.48	1.98	2.98

APPENDIX C (CONTINUED)
FACTOR SCORES FOR EACH OF 202 PERUVIAN EXECUTIVES EMPLOYED IN GENERAL ADMINISTRATION, MARKETING, OR OPERATIONS

Subjects	Factors				
	I	II	III	IV	V
			Marketing		
36	-13.29	-4.02	3.48	-0.25	0.89
37	-14.34	0.98	-1.26	-1.09	0.81
38	3.84	-1.62	2.89	-2.33	-2.27
39	-11.83	-3.15	-0.45	-1.50	-1.72
40	1.46	0.82	-0.50	-2.03	-0.27
41	8.26	-4.46	-1.91	0.64	1.79
42	1.25	-2.64	2.88	-3.48	-1.38
43	10.87	-4.64	-0.30	2.03	1.78
44	-0.47	3.66	2.21	-2.16	-0.85
45	-1.32	3.14	1.23	-2.27	0.64
46	2.86	-3.07	-0.40	-2.82	2.89
47	-14.78	0.23	-2.50	-0.67	2.35
48	2.72	1.92	-1.49	0.05	0.54
49	-11.31	-4.93	-0.10	-0.38	-2.10
50	1.35	1.16	2.39	-0.57	-0.13
51	2.18	-0.92	1.41	-0.27	1.95
52	7.24	4.78	-1.20	3.56	0.15
53	5.93	1.15	-2.95	-0.88	5.57
54	-13.60	-2.00	-2.87	-0.37	2.71
55	4.33	1.79	0.08	-2.06	-0.69
56	5.61	1.34	-0.99	-2.34	-0.87
57	1.85	0.35	3.88	-1.16	2.02
58	6.43	-2.88	0.03	0.35	-0.62
59	7.13	-2.45	-3.99	-0.30	1.26
60	8.63	-1.62	0.52	-1.84	-0.75
61	4.43	1.80	1.05	-1.55	2.46
62	5.68	1.28	-2.40	-0.28	1.32
63	7.16	-2.32	-2.56	-2.66	2.19
64	0.34	4.97	0.18	-1.64	3.42
65	5.74	0.18	-3.47	-3.57	0.44
66	3.34	1.46	0.66	-1.57	1.11
67	-3.03	5.74	-1.18	-3.58	-1.54
68	-13.26	-3.38	1.06	3.36	-1.32
69	5.76	3.55	-1.45	5.31	-0.15
			Operations		
70	3.71	1.48	-0.85	-1.65	-1.28
71	12.39	-2.42	-2.41	-2.37	0.12

APPENDIX C (CONTINUED)
FACTOR SCORES FOR EACH OF 202 PERUVIAN EXECUTIVES EMPLOYED IN GENERAL ADMINISTRATION, MARKETING, OR OPERATIONS

Sub-jects	Factors				
	I	II	III	IV	V
			Operations		
72	6.19	-3.25	-0.61	-0.98	0.34
73	-3.62	2.02	-0.07	-3.84	-2.30
74	4.83	2.25	0.90	0.08	-0.77
75	5.52	6.60	0.17	-1.83	1.13
76	7.56	0.12	2.52	-0.49	0.09
77	5.08	1.72	2.44	-0.71	0.19
78	3.68	-2.53	-0.19	-0.76	-1.27
79	6.38	2.92	-3.13	1.90	-0.80
80	-12.65	-0.24	-3.33	-0.62	-0.83
81	7.53	-3.68	2.47	-4.18	3.27
82	-13.15	-5.47	2.85	2.25	-2.08
83	0.82	0.74	2.83	-1.16	0.18
84	2.96	5.34	3.28	-0.38	1.51
85	1.89	6.13	-1.28	-2.78	-1.89
86	0.64	4.03	-3.34	0.90	1.66
87	2.72	-3.62	-5.06	-0.13	2.81
88	6.93	1.03	0.41	2.54	2.07
89	2.01	-2.58	1.79	2.14	-2.44
90	1.05	2.69	1.60	-1.62	0.39
91	9.32	-1.67	-1.88	-1.82	-1.46
92	6.71	-1.44	-1.33	0.60	0.44
93	-16.60	2.02	1.88	0.67	0.78
94	4.31	-1.59	0.21	1.03	-0.87
95	8.42	-1.40	-0.40	-0.14	1.86
96	4.38	0.10	3.56	0.14	1.84
97	8.31	-2.56	4.54	4.01	-2.81
98	6.38	-0.07	-0.05	-1.13	3.27
99	5.15	-1.90	-2.42	-2.74	1.90
100	8.40	2.35	1.01	2.82	-0.20
101	1.16	2.20	-2.70	1.88	-1.54
102	8.46	-0.18	-0.29	-1.24	0.67
103	0.26	4.72	-2.14	-3.42	3.40
104	2.30	7.19	3.40	-0.73	-0.17
105	-10.16	-5.64	-4.63	1.88	-0.98
106	12.05	-3.81	2.83	-1.57	0.49
107	2.55	-2.78	0.24	-1.02	0.20
108	-11.17	-3.59	-1.12	-1.33	0.42
109	-15.08	0.95	0.45	-1.53	-0.06

APPENDIX C (CONTINUED)
FACTOR SCORES FOR EACH OF 202 PERUVIAN EXECUTIVES EMPLOYED IN GENERAL ADMINISTRATION, MARKETING, OR OPERATIONS

Subjects	Factors				
	I	II	III	IV	V
			Operations		
110	4.30	4.85	-3.46	-1.25	2.52
111	4.75	1.43	1.09	0.12	0.32
112	1.74	3.64	-0.86	-0.11	1.38
113	6.72	-3.60	-4.54	-0.00	0.80
114	11.24	-1.60	2.41	1.44	-1.01
115	1.80	3.25	-0.57	-0.61	-1.63
116	4.96	2.05	-1.29	1.91	1.02
117	-11.43	-4.51	-2.89	-0.99	0.69
118	8.48	5.57	-1.97	-0.89	-0.89
119	5.21	2.40	0.61	-1.23	1.34
120	8.12	3.20	2.33	1.46	-0.07
121	6.10	0.75	-2.57	-2.05	1.89
122	4.81	-0.86	2.51	0.35	1.41
123	4.35	1.39	-0.00	-0.00	-0.29
124	3.55	1.43	-0.37	-1.73	-1.55
125	1.21	-2.92	-0.37	-1.44	0.48
126	4.52	-6.56	0.47	-0.21	0.89
127	2.68	1.03	-0.33	2.60	-0.64
128	4.40	1.67	2.14	2.23	-0.60
129	11.80	-1.47	-0.71	1.28	1.95
130	0.08	1.48	-0.52	-1.63	-1.06
131	2.36	5.17	-0.29	0.84	-0.53
132	-13.69	-3.83	-0.62	2.29	0.19
133	1.53	9.30	-0.30	-3.48	-0.33
134	-15.14	-2.79	-0.65	-2.76	3.11
135	3.94	4.62	-0.44	0.47	0.39
136	7.26	-2.09	-0.52	4.67	2.27
137	4.27	2.94	1.68	0.60	1.57
138	5.41	4.34	-1.41	1.13	-0.06
139	6.97	6.99	0.48	0.96	0.64
140	8.22	-2.31	-5.16	4.22	2.74
141	-17.25	4.92	2.32	-1.14	-0.25
142	4.68	-5.55	1.24	-0.71	-0.33
143	5.76	-0.95	2.99	2.96	0.13
144	3.04	4.50	1.47	-2.79	1.15
145	6.84	1.52	-1.06	2.77	1.56
146	-16.39	3.39	2.10	-0.97	-0.43
147	5.12	5.37	0.91	1.28	3.25

APPENDIX C (CONTINUED)
FACTOR SCORES FOR EACH OF 202 PERUVIAN EXECUTIVES EMPLOYED IN GENERAL ADMINISTRATION, MARKETING, OR OPERATIONS

Subjects	Factors				
	I	II	III	IV	V
			Operations		
148	1.32	-2.18	-0.41	-2.65	1.54
149	9.38	5.07	-2.21	2.81	1.12
150	4.90	3.13	-0.46	2.45	0.42
151	4.19	-3.89	1.33	-1.65	0.74
152	6.81	-0.71	-0.46	0.45	0.73
153	-14.36	0.39	-3.51	-1.71	1.07
154	1.60	7.08	-4.27	0.76	0.00
155	6.98	-1.09	-1.93	-2.88	-2.08
156	7.63	4.55	-2.95	-0.42	-2.05
157	7.17	3.85	0.28	2.24	-0.71
158	3.33	3.41	-1.50	0.03	1.45
159	3.59	4.45	-3.50	2.63	-0.06
160	5.79	7.30	-0.82	-1.21	-0.18
161	2.50	7.42	-3.31	1.09	-0.16
162	1.96	5.01	-1.10	0.48	0.91
163	6.71	-0.95	-0.98	-0.07	-2.61
164	7.41	-2.12	0.20	1.83	2.54
165	6.89	2.77	-2.70	-0.78	0.19
166	3.63	5.10	-0.82	0.34	0.01
167	4.44	5.65	-2.59	-0.25	1.32
168	7.19	-2.49	-1.98	2.35	2.75
169	7.40	-8.53	-1.09	1.16	-1.99
170	-20.55	8.29	3.65	-0.57	-2.83
171	8.99	-2.32	1.45	-1.52	0.65
172	7.41	0.89	1.09	1.37	1.75
173	8.73	1.31	-0.21	-2.13	-0.26
174	0.92	1.49	-0.92	-4.05	-0.96
175	4.60	2.37	-1.83	1.76	-0.53
176	-10.45	-5.27	0.28	0.15	3.07
177	0.77	-3.18	0.35	-1.12	-0.32
178	8.15	1.57	-2.96	0.96	1.28
179	-12.18	-3.32	-0.15	1.14	-0.28
180	5.63	2.15	1.06	0.65	-0.48
181	3.32	4.23	1.26	4.16	0.35
182	7.91	-0.33	0.11	-1.92	0.69
183	4.85	1.24	2.35	-1.08	0.29
184	2.12	1.14	2.10	0.37	-1.43
185	-3.37	8.97	6.00	-0.48	-0.50

APPENDIX C (CONTINUED)

FACTOR SCORES FOR EACH OF 202 PERUVIAN EXECUTIVES EMPLOYED IN GENERAL ADMINISTRATION, MARKETING, OR OPERATIONS

Subjects	Factors				
	I	II	III	IV	V
		Operations			
186	10.13	-6.44	3.97	1.28	2.34
187	8.00	-0.05	-5.70	0.27	4.31
188	0.44	5.87	-0.98	0.84	0.01
189	9.10	-2.14	2.92	-1.14	0.39
190	4.69	-2.18	0.59	-1.96	0.14
191	2.08	3.68	1.39	-3.13	1.09
192	8.47	2.56	-2.34	0.17	-0.31
193	8.65	-1.61	0.61	0.86	1.04
194	5.33	4.32	-2.68	1.62	0.06
195	5.51	-5.82	0.32	-1.86	-2.15
196	4.69	-0.72	-0.23	-0.66	-1.64
197	-17.57	7.07	0.05	2.41	-0.36
198	9.98	-3.42	-1.72	1.79	-1.25
199	6.09	6.41	0.19	0.71	-1.85
200	-15.06	2.41	0.96	2.40	-1.37
201	-15.71	1.25	5.16	1.40	-3.22
202	8.80	-7.50	1.68	-1.73	0.90

APPENDIX D

FACTOR SCORES FOR EACH OF 135 COLOMBIAN EXECUTIVES EMPLOYED IN GENERAL ADMINISTRATION, MARKETING, OR OPERATIONS

Subjects	Factors				
	I	II	III	IV	V
		General Administration			
1	-15.26	1.04	4.07	-1.90	2.57
2	-17.34	0.62	0.22	-0.11	1.84
3	7.24	-0.32	-3.74	-1.22	-1.92
4	-19.38	4.73	2.13	-0.38	0.94
5	4.72	-4.03	0.80	-2.51	-2.48
6	-13.21	-3.92	-0.11	-0.77	0.43
7	12.15	-5.53	1.88	0.56	-0.25
8	11.11	-5.44	7.34	-3.60	0.02
9	8.68	0.49	1.13	-7.90	-0.02
10	7.15	-2.86	-2.58	2.49	0.12
11	3.70	0.65	1.83	-3.09	-1.20
12	-14.01	0.60	-2.16	-1.19	1.02
13	-12.50	-4.35	-4.18	-1.64	0.27
14	0.92	0.78	-0.27	-0.69	-1.83
15	7.49	-3.03	-0.77	-3.49	-1.69
16	12.83	-1.22	-0.02	-0.42	1.50
17	7.02	6.14	1.01	-0.15	0.57
18	2.38	-1.00	-1.25	0.62	0.33
19	16.87	-2.99	-1.76	7.28	-1.07
20	-0.48	3.43	-1.08	0.88	0.13
21	7.50	1.41	-0.53	2.39	1.10
22	-12.76	-1.60	-1.60	0.27	0.90
23	5.41	-1.07	1.12	4.24	-2.18
24	-14.80	0.87	-0.98	0.93	3.53
25	-2.83	-2.68	-3.28	-2.89	1.14
26	2.24	0.68	-0.43	-1.92	-2.08
27	-14.89	-0.65	0.97	-3.43	-1.48
28	8.18	-1.03	-0.10	-0.46	2.08
29	4.74	-1.77	0.90	-1.58	0.09
30	-12.33	-5.57	-4.15	5.40	-3.47
31	15.62	-7.21	0.64	-1.22	-0.69
32	15.40	-9.53	1.09	-0.59	-0.82
33	-13.23	-6.15	0.25	0.07	0.81
34	3.80	6.60	3.42	1.22	1.69
35	-2.93	6.35	-2.52	-0.83	-0.61
36	-12.08	-3.95	-2.45	-0.80	0.80

APPENDIX D (CONTINUED)

FACTOR SCORES FOR EACH OF 135 COLOMBIAN EXECUTIVES EMPLOYED IN GENERAL ADMINISTRATION, MARKETING, OR OPERATIONS

Subjects	Factors				
	I	II	III	IV	V
		General Administration			
37	7.08	-3.66	-0.02	3.58	-0.39
38	-15.05	-2.24	-2.08	-1.30	1.83
39	-14.95	-5.07	-0.32	3.66	1.04
40	3.22	3.25	0.23	2.59	1.66
41	8.80	-1.67	0.73	0.72	-0.05
42	-3.49	-1.85	-1.89	-1.38	2.22
43	2.36	1.00	1.04	-0.25	0.26
44	9.44	3.08	4.50	0.56	0.84
45	3.29	1.03	0.05	-2.30	-0.33
		Marketing			
46	6.73	-0.06	1.39	-2.71	0.10
47	9.48	-6.59	-0.69	2.04	-0.83
48	-12.80	-1.45	-0.18	-1.92	0.93
49	-16.50	2.17	-1.17	2.76	-0.62
50	6.24	2.55	3.31	1.32	0.33
51	12.02	-5.57	3.83	1.90	-3.16
52	4.47	1.20	0.64	2.22	0.85
53	-13.08	-2.12	-1.79	-1.49	-0.87
54	6.32	-2.69	-1.18	-2.71	-1.32
55	-11.93	-2.53	-4.63	-1.19	-2.08
56	4.52	7.76	3.17	-1.37	0.05
57	3.12	4.75	-0.27	-1.88	-0.59
58	6.05	-1.30	-1.49	-3.41	-1.96
59	12.90	-4.76	0.82	1.90	0.19
60	-13.87	-2.27	0.25	-3.38	-2.61
61	-14.80	4.10	-1.13	-0.14	-1.80
62	4.22	-2.77	-1.13	-1.21	-1.27
63	12.92	-0.15	2.21	1.22	1.69
64	5.56	5.01	-0.05	-0.41	-0.71
65	9.48	-4.33	-0.03	-2.35	-1.24
66	12.09	-3.53	0.48	-0.17	0.42
67	-15.23	0.77	-3.51	-2.23	0.23
68	-13.68	-2.58	-2.48	-2.12	-0.75
69	-14.84	1.69	-1.21	1.16	-3.80
70	1.56	-0.04	-2.55	-1.63	-4.19

APPENDIX D (CONTINUED)

FACTOR SCORES FOR EACH OF 135 COLOMBIAN EXECUTIVES EMPLOYED IN GENERAL ADMINISTRATION, MARKETING, OR OPERATIONS

Sub-	Factors				
jects	I	II	III	IV	V
			Marketing		
71	15.73	-5.51	3.07	0.02	-1.54
72	10.55	-3.00	-0.93	0.87	-1.03
73	-3.48	-6.74	-0.86	0.83	0.45
74	-12.92	-2.70	-0.19	-1.13	3.19
75	2.76	5.78	1.81	-1.49	0.05
76	7.03	1.74	-3.37	-1.22	0.38
77	4.01	1.11	-2.11	-4.44	0.81
78	4.91	-2.23	-1.80	0.31	-1.34
79	-10.39	-5.84	-1.14	-2.89	-0.20
80	-13.24	-4.26	1.14	-2.27	1.68
81	-3.18	-2.22	2.62	3.39	-1.06
82	5.43	2.81	0.53	0.75	0.08
83	7.51	4.03	2.34	1.73	-0.19
84	6.50	1.43	-3.33	-1.62	0.70
85	8.76	0.04	-1.73	3.52	-1.23
			Operations		
86	8.81	-1.31	1.16	2.55	-0.41
87	-15.96	-0.70	-0.58	0.74	1.02
88	4.51	-2.38	0.41	-0.30	-2.83
89	-15.30	3.35	-4.54	0.56	-1.16
90	-17.19	0.32	4.73	-0.96	-1.51
91	-14.07	-2.23	2.12	2.98	1.11
92	-16.59	2.10	-0.49	-2.10	-2.52
93	-15.90	3.75	-1.72	1.29	0.70
94	12.60	-2.37	1.85	1.91	1.39
95	-17.71	6.84	0.92	1.76	-1.51
96	5.41	5.07	-1.51	2.73	-0.49
97	10.20	-3.99	1.66	-0.18	0.64
98	-16.31	1.67	6.57	3.86	-2.22
99	2.56	6.91	4.76	0.03	-0.51
100	5.34	-1.08	-0.48	2.25	-2.34
101	3.05	6.72	-2.46	0.44	-2.26
102	4.40	2.36	1.15	-0.06	-1.35
103	7.92	-3.85	-1.40	-3.60	1.58
104	-15.07	-5.03	2.15	-1.32	-1.75
105	2.26	-2.99	-0.46	2.28	-2.33
106	-14.76	-1.27	-0.15	0.53	1.05

APPENDIX D (CONTINUED)

FACTOR SCORES FOR EACH OF 135 COLOMBIAN EXECUTIVES EMPLOYED IN GENERAL ADMINISTRATION, MARKETING, OR OPERATIONS

Subjects	Factors				
	I	II	III	IV	V
			Operations		
107	-13.99	-1.65	-1.56	0.34	0.10
108	-17.58	3.51	6.20	-0.79	2.11
109	-14.83	-2.71	0.37	0.94	0.64
110	5.17	1.26	2.69	0.19	-0.79
111	-16.35	-1.93	-0.14	-0.37	0.32
112	-17.66	8.33	1.72	4.48	0.05
113	-18.39	1.80	3.11	-3.29	0.57
114	-12.94	-5.41	-1.27	4.85	-0.76
115	-1.49	5.01	-2.32	2.53	2.23
116	-11.81	-8.39	0.67	0.50	0.56
117	-15.58	-0.59	7.18	2.98	-0.61
118	-11.86	-4.06	-3.51	-1.23	-0.90
119	-13.85	2.70	-4.45	1.55	-2.27
120	-1.23	4.23	0.71	0.52	-0.48
121	-14.18	-2.07	-1.71	-0.40	-2.72
122	-16.18	2.46	-0.62	0.47	0.93
123	-15.03	1.76	0.19	1.16	0.05
124	-16.15	2.34	1.70	0.68	-0.10
125	-14.24	-3.76	-1.42	2.60	-1.30
126	11.14	-3.24	1.77	2.80	1.68
127	10.27	0.01	-1.87	0.32	-0.75
128	6.48	0.23	-2.70	-1.79	-2.35
129	-15.43	-2.40	3.56	-1.71	1.30
130	3.21	3.98	1.49	-2.01	-2.23
131	-13.90	-0.56	-1.43	0.19	-1.06
132	4.17	-1.19	0.19	3.21	-0.25
133	1.90	-4.27	0.60	0.09	-1.42
134	11.96	-5.19	0.03	0.59	-0.99
135	5.81	-1.37	-4.61	-2.54	-2.45

APPENDIX E

FACTOR SCORES FOR EACH OF 45 CENTRAL AMERICAN EXECUTIVES EMPLOYED IN GENERAL ADMINISTRATION, MARKETING, OR OPERATIONS

Subjects	Factors				
	I	II	III	IV	V
	General Administration				
1	-15.82	-0.47	5.68	-1.39	-0.05
2	1.76	2.95	1.01	-1.27	-0.33
3	2.34	0.84	1.61	3.71	-0.63
4	9.16	2.76	0.60	0.09	-2.86
5	-15.13	0.07	1.49	1.16	-1.34
6	6.08	1.56	-5.11	0.54	0.02
7	-14.21	-2.86	-0.18	-0.06	1.35
8	7.19	-0.54	3.97	0.88	-0.44
9	13.59	-6.12	2.80	2.18	0.20
10	-17.37	-0.75	-0.56	3.68	1.99
11	-0.41	1.51	4.34	2.54	1.16
12	5.96	0.82	-1.05	0.87	-0.88
13	-11.34	-4.14	-1.56	0.48	1.84
14	-14.03	-5.78	1.36	1.37	1.89
15	-14.76	-3.78	8.31	-0.24	1.28
16	-17.02	4.31	-5.76	4.69	-2.41
17	-15.75	-1.41	-1.31	3.03	2.37
18	3.50	-4.94	1.38	2.47	1.92
	Marketing				
19	4.58	-5.74	3.23	0.38	-1.78
20	0.01	-1.58	-1.38	-2.33	-0.57
21	15.54	-1.02	-0.75	-0.18	-1.61
22	2.87	1.91	2.93	1.38	-0.51
23	6.77	0.92	2.56	-1.76	-1.42
24	5.95	2.50	3.48	3.93	-2.00
25	10.27	-1.69	0.38	0.34	-0.95
26	7.56	-1.01	-0.27	5.21	0.76
27	1.84	-3.18	3.71	0.27	0.88
28	6.21	1.20	-0.42	0.05	-2.87
29	9.00	0.41	-2.03	-1.52	1.41
30	1.89	0.53	-3.60	-2.54	-3.31
31	1.27	0.02	1.35	0.02	2.46
32	7.41	-1.85	-0.22	1.78	-2.97
33	14.25	-4.28	-3.12	1.92	-1.03
34	9.21	5.23	0.42	0.99	-0.33
35	5.30	-0.36	-1.54	0.12	-1.64

APPENDIX E (CONTINUED)

FACTOR SCORES FOR EACH OF 45 CENTRAL AMERICAN EXECUTIVES EMPLOYED IN GENERAL ADMINISTRATION, MARKETING, OR OPERATIONS

Subjects	Factors I	II	III	IV	V
		Operations			
36	-17.77	0.92	0.89	-0.16	-1.75
37	-11.09	-8.07	-1.37	0.03	-0.70
38	-1.84	0.69	-2.11	0.13	0.60
39	11.83	-9.32	4.43	0.65	0.76
40	9.69	-0.02	-1.41	0.94	-1.85
41	-14.88	-1.16	-0.73	2.96	-0.55
42	-15.38	0.11	3.59	-0.40	4.21
43	9.15	-1.65	0.88	1.09	-0.29
44	4.65	8.16	-0.39	-0.72	-0.17
45	-0.98	0.96	6.73	1.66	0.04